BowelScreen Programme Report 2016 – 2017

Round Two

An tSeirbhís Náisiúnta Scagthástála
National Screening Service

BowelScreen
An Clár Náisiúnta Scagthástála Putóige
The National Bowel Screening Programme

BowelScreen

An Clár Náisiúnta Scagthástála Putóige
The National Bowel Screening Programme

Screening charter

About BowelScreen – The National Bowel Screening Programme

- BowelScreen – The National Bowel Screening Programme offers free bowel screening to men and women aged 60 to 69. The BowelScreen programme will over time be offered to all people aged 55-74.
- The bowel screening test is carried out in your own home.
- Bowel screening can detect changes in the bowel before they become cancer.
- Bowel screening aims to find bowel cancer at an early stage when it is easier to treat.

Our commitment to you

- We will respect your privacy, dignity, religion, race and cultural beliefs.
- We will arrange services and facilities so that you can use the service, including special needs.
- We will keep your screening records safe and confidential.
- We will welcome your views and take them into account.
- We will provide a Freephone information and support line during normal working hours.
- We will offer you free screening every two years while you are aged 60 to 69, once you become known to the programme.
- We will provide information explaining each step in the screening process.
- We will send your home test kit, instructions and information to you within five working days of you letting us know you want to take part in the programme.
- We will screen your test in a laboratory that meets high quality standards.
- We will send your test result to you and to your GP (family doctor) within four weeks.

If you take part in the screening programme and your test result is not normal

- We will offer you a colonoscopy – a special examination of your bowel.
- A colonoscopy will be offered within four weeks of you being assessed as suitable.

If you need treatment

- We will tell you sensitively and honestly.
- We will explain the treatment available to you.
- We will encourage you to share in decision-making about your treatment.
- We can include your partner, friend or relative in any discussions if that is what you want.
- We will offer you surgery or other treatment within 25 working days after your colonoscopy, if you need it.
- We will offer you support from a nurse before and during your colonoscopy.
- You have the right to refuse treatment, to get a second opinion or to choose an alternative treatment.

Ways you can help us

- Read any information we send you and if you have any questions you can call the Freephone information and support line.
- Follow the instructions with your BowelScreen home test and return the test to us within seven days.
- If we refer you for more tests, keep your appointment time and give at least three days' notice if you need to change your appointment.
- Tell us if you have special needs that we need to plan for.
- Tell us if you change your address.
- Tell us what you think of the service and the care you received. Your views will help us to improve the service for you and for other people.

Freephone
1800 45 45 55
www.bowelscreen.ie

An tSeirbhís Náisiúnta Scagthástála
National Screening Service

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Introduction from the Clinical Director of BowelScreen

The primary goal of BowelScreen – the National Bowel Screening Programme, run by the National Screening Service (NSS), is to reduce mortality from colorectal cancer in men and women in Ireland.

I am pleased to present the key findings arising from the second round of colorectal screening in Ireland.

The figures reported relate to clients invited for screening between 01 January 2016 and 31 December 2017, the period referred to as Round Two. Some of these clients may have been screened and/or treated in 2018. The results clearly indicate that BowelScreen makes a significant difference to the health of the people of Ireland.

Colorectal cancer in Ireland

In Ireland, bowel (colon, rectal or colorectal) cancer is the second most common newly-diagnosed cancer in men, and the third most common in women. Each year over 2,770 new cases of colorectal cancer are reported[1]. The number of new cases is expected to increase significantly over the next 10 years, due mainly to an increasing and ageing population[2].

As the vast majority of these cancers are thought to arise from benign growths known as adenomas, a screening programme that can detect these adenomas early will save many lives.

Colorectal screening

The primary objective of colorectal cancer screening is to detect and remove pre-cancerous adenomas in the lining of the bowel, thereby making colorectal cancer screening a truly preventative health measure.

This has the effect of potentially reducing the burden of treatment on both the individual and the health system. It reduces the stress, disruption and anguish that cancer diagnoses and subsequent treatment can bring to the individual, their family and their wider community.

About the BowelScreen programme

The BowelScreen colorectal screening programme began in 2012 and offers free screening to men and women aged 60-69 on a two-yearly cycle.

As its primary screening tool, the programme uses the faecal immunochemical test (FIT) which detects a level of blood in the stool, and it operates on an automated testing platform. Ireland was one of the first countries to adopt this technology for organised population-based colorectal cancer screening. One of the advantages of using this test in a population-based screening programme is that it can be self-administered in the privacy of the individual's own home.

No screening test is 100 per cent accurate; the FIT relies on a cancer, or adenoma, bleeding at the time of the test. Thus, there will be false negatives when the FIT is negative and a lesion is present, and, alternatively, there will be false positives when the FIT is positive and a subsequent colonoscopy shows no significant cause. In some of these cases, it may be that the FIT detects blood from benign conditions such as piles, rather than adenomas linked to cancer.

For the majority (approximately 95 per cent) of the population, the FIT will be the only test required. For a small minority (approximately 5 per cent), a further test (colonoscopy) at a hospital-based screening colonoscopy unit will be necessary.

Second screening round results

It is accepted that bowel cancer can be a treatable disease, if detected early. The evidence indicates that there is about a 90 per cent chance of living more than five years following diagnosis, if cancer is detected at Stage 1 of the disease[3].

The clinical results for the second screening round are encouraging. BowelScreen invited 546,767 eligible clients, screened 226,374 clients, performed 6,523 initial colonoscopies and detected 410 cancers. This represents a screening uptake rate of 41.4 per cent and a cancer detection rate of 1.81 per 1,000 clients screened.

In addition, 12,367 adenomas or polyps were removed. These are abnormal tissue growths that can become cancerous at a later stage. The removal of pre-cancerous polyps greatly reduces the risks of future bowel cancer development. These individuals are offered further surveillance colonoscopies to detect and treat any adenoma recurrence at a later date. In Round Two, in excess of 1,700 surveillance colonoscopies were performed.

In addition, 879 sessile serrated lesions (SSLs) were detected. SSLs are flat, pre-cancerous polyps that can develop into bowel cancer. They can be difficult to visualise at colonoscopy, which is why excellent bowel preparation is so important. The programme is one of the first international bowel screening services to report on these lesions.

Concluding remarks

BowelScreen is providing an essential service to the Irish public and this could not be achieved without the dedication and professionalism of those individuals who work to ensure that services are delivered to high standards.

I would like to thank the Programme Evaluation Unit within the NSS for compiling the data contained in this report. I also wish to acknowledge the BowelScreen Programme Manager, the BowelScreen team, the IT Department, and those who provide leadership and advice in the Executive Management Team meetings.

In addition, I must extend my thanks to past and present members of our Clinical Advisory Group and Quality Assurance Committee, for their ongoing professional dedication, input and support. I would also like to acknowledge the work of the authors and contributors who helped produce the second edition of the Quality Assurance standards[4], which were published in 2017.

Finally, it is important to note that the colonoscopy element of the BowelScreen programme would not be possible without the professional input of the Advance Nurse Practitioners and Clinical Nurse Specialists in the colonoscopy screening centres, who deliver excellent services in conjunction with the consultant endoscopists, surgeons and histopathology laboratories.

I am greatly encouraged that the additional support provided by the National Endoscopy Working Group of the HSE, the Acute Hospitals Division, and the Department of Health, will ensure that the programme continues to progress and mature.

Professor Pádraic MacMathuna
Clinical Director (Interim)

Message from the Programme Manager of BowelScreen

Since the establishment of BowelScreen in 2012, the NSS has made significant progress in developing the programme. Strategic planning for the development and implementation of BowelScreen is provided by the Executive Management Team and the Colorectal Operational Committee.

These groups incorporate support from across the NSS, including the Programme Evaluation Unit, Information Technology, Screening Promotion, Communications, Quality Assurance, Facilities, Human Resources and Procurement, as well as BowelScreen staff.

The programme is dependent on maintaining and developing relationships with all of our hospital partner sites, nursing teams, managers, gastroenterologists, endoscopists, histopathologists, surgeons and computed tomography (CT) clinicians.

I wish to acknowledge the work and dedication of these individuals in the continued delivery of the programme, as well as the team involved in the delivery of the Patient and Public Partnership Strategy.

I also wish to recognise the contribution of BowelScreen laboratory providers, postal services and Freephone staff. Their dedication and professionalism have ensured that, during the second screening round, more than 500,000 invitation letters were issued promptly, along with the many thousands of reminder, recall, result and GP letters; and that over 200,000 home testing kits were dispatched, and analysed on time.

The NSS continues to work with the Acute Hospitals Division of the HSE and the Department of Health. BowelScreen is committed to working in partnership with the National Endoscopy Working Group to promote and drive service improvements across all hospital groups.

The workstreams identified by the group include developing plans for capacity and demand, standardised referral pathways, validation and scheduling, quality assurance and training. From mid-2018, FIT kits will be sent automatically to previous participants, without them having to contact the programme.

Training of health professionals

The encouragement of a trusted health professional is a key motivation in a person's decision to engage with screening. On this basis the screening promotion service provided training on BowelScreen to the following groups and representative bodies:

- Irish Practice Nurses Association
- GP trainees
- Student nurses at undergraduate level in the major academic institutions nationally
- Trainee public health nurses
- Non-specialist nurses working in an acute setting - in partnership with the National Cancer Control Programme
- HSE Traveller health workers.

Focus on men

A number of initiatives were undertaken in an effort to engage directly with men because the uptake rate for men is considerably lower than that of women. Key among these were:

- Engagement with the Men's Sheds Association. We provided training at county level in 10 counties throughout the period, and have committed to further engagement in 2018 and 2019.
- Promotion of BowelScreen during Men's Health Week (June 2016 and 2017).

Community engagement

We attended national and local events, including:

- National Ploughing Championships and the Tullamore Show
- Health fairs nationally - often in areas of social deprivation
- Over 50s and Positive Ageing shows in Dublin, Cork and Athlone.

In Round Three, the programme will continue to work to ensure the quality and equity of the service; to contact groups that are traditionally difficult to reach; and ultimately to increase the number of people who participate in BowelScreen.

There are continuous improvements to be made, however, these should not detract from the fact that the establishment of the programme has been a significant milestone in the improvement of cancer detection in Ireland.

Hilary Coffey Farrell
Programme Manager

Highlights of 2016-2017

546,767
eligible clients invited

226,374
satisfactory FIT tests completed

41.4%
screening uptake rate

410
cancers detected

3,700
clients found to have adenomas

12,367
adenomas removed

584
clients with advanced adenomas removed

56.7%
adenoma detection rate

Programme Performance

Screening activity overall

The figures reported relate to clients invited by BowelScreen for screening between 01 January 2016 and 31 December 2017 (Round Two). Some of these clients may have been screened and/or treated in 2018.

Programme standards, against which performance is measured, are based on the *Guidelines for Quality Assurance in Colorectal Screening*[4].

During 2016 and 2017, 546,767 clients were invited by BowelScreen for screening (Table 1). Of these, 239,682 consented to screening, and 226,374 satisfactory faecal immunochemical test (FIT) were completed and returned. This reflects a screening uptake rate based on the eligible population of 41.4 per cent, which was a small improvement from the first round (40.2) but below the standard of 50 per cent.

BowelScreen can only be effective in reducing mortality from bowel cancer in the population if at least 50 per cent of eligible clients attend for screening. Adenomas were detected in 3,700 clients undergoing colonoscopy giving an adenoma detection rate (ADR) of 56.7 per cent which was well above the programme standard. As most bowel cancers develop from adenomas, their removal at colonoscopy provides a preventative measure that lowers the risk of developing bowel cancers.

Table 1: BowelScreen screening performance Rounds One and Two

Performance Parameter	Total Round One	Total Round Two	Quality Assurance Standard
Number of eligible clients invited	488,628	546,767	
Number of clients consented	207,253	239,682	
Number of FIT returns	196,440	226,671	
FIT returns by consent	94.8%	94.6%	
Number of FIT satisfactory	196,238	226,374	
Uptake	40.2%	41.4%	≥50%
Number of FIT positive	9,786	8,204	
FIT positive	5.0%	3.6%	
Number of cancers detected	521	410	
Cancer Detection Rate (CDR) per 1,000 screened	2.65	1.81	
Number of clients with adenomas	4,369	3,700	
Adenoma Detection Rate (ADR)	54.2%	56.7%	>45%

To undertake bowel screening, clients are invited by letter to take a FIT test, which is a home test kit that is returned for analysis by a contracted laboratory. Approximately 95 per cent of clients' tests are returned by the laboratory as a normal result. If a client has a positive (not normal) test result, the client moves to the endoscopy stage of the pathway, where they are offered a colonoscopy in one of the programme's JAG (Joint Advisory Group) accredited screening colonoscopy units. Once this is completed, the client is either discharged, offered a surveillance scope at a planned interval to monitor, or offered treatment, if a cancer has been diagnosed.

Uptake by type of screen, gender and age group

In 2016 BowelScreen began the second round of screening. This screening round lasted two years. The statistics presented in this report pertain to those clients who received their invitation in Round Two between 01 Jan 2016 and 31 Dec 2017. Given that this was the second round of screening, some clients were invited for their first screen (initial clients) having only become eligible, or known to the programme, and some clients who attended in Round One were re-invited for their second or subsequent screen (subsequent clients).

Initial clients comprise clients who are being invited for the first time and clients who were invited in Round One but failed to take up the offer of screening and were re-invited in Round Two. Uptake of initial clients was higher in the younger age group in both males and females (Table 2). Female initial uptake was higher than male uptake across both age groups. Most of the clients in the older age group were invited in Round One but did not take up their screening opportunity. Evidence from other screening programmes has shown that this behavior often persists over time and that these clients are less likely to attend in the next and subsequent rounds.

Table 2: Initial clients by gender and age group in Round Two

Performance Parameter	Male		Female		Total
	60-64	65-69	60-64	65-69	60-69
Number of eligible invited	155,588	75,152	142,349	63,912	437,001
Number screened	49,797	11,083	60,639	10,558	132,077
Uptake	32.0%	14.7%	42.6%	16.5%	30.2%

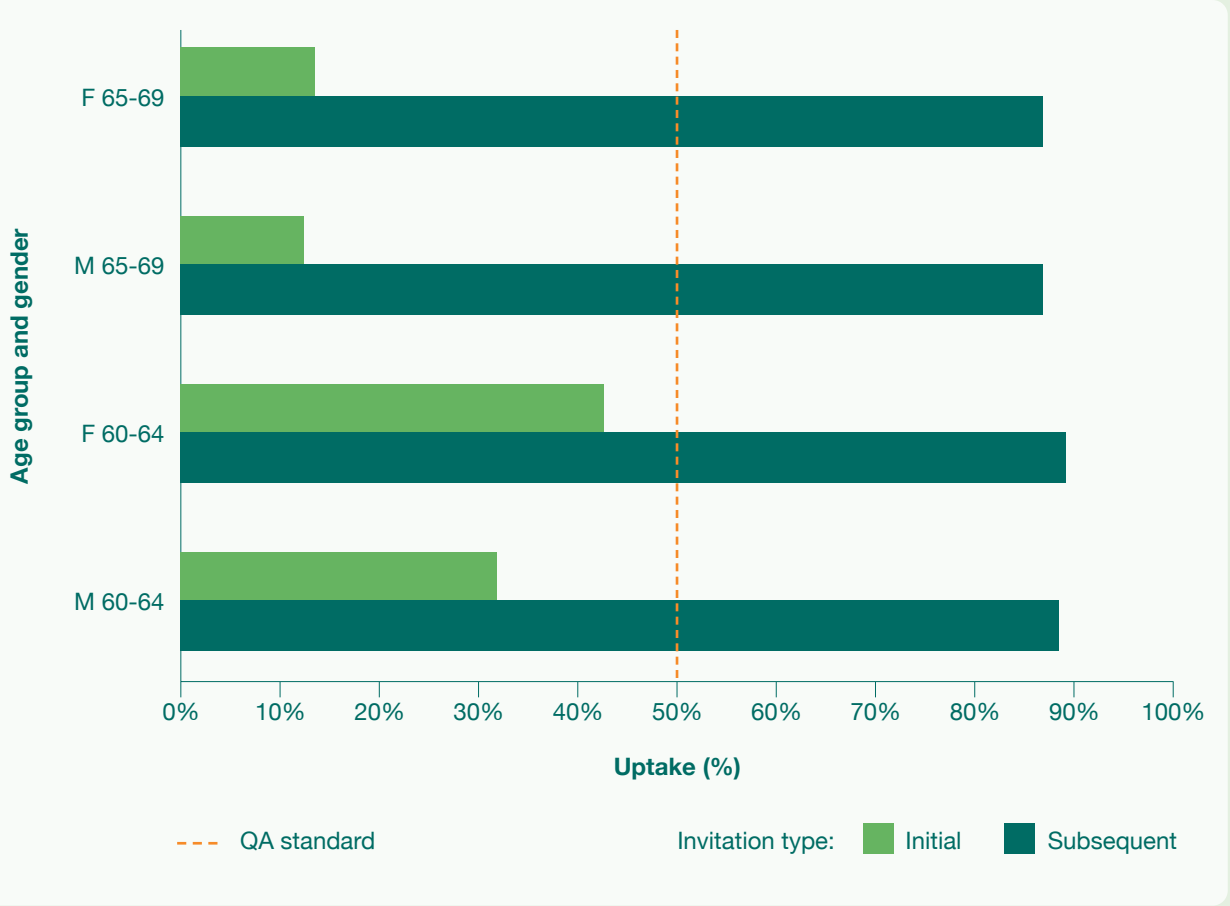
The term ‘subsequent clients’ refers to clients who have previously attended BowelScreen and are being invited for the second or subsequent time. Uptake was very high among subsequent clients for both males and females (Table 3).

Table 3: Subsequent invites by gender and age group

Performance Parameter	Male		Female		Total
	60-64	65-69	60-64	65-69	60-69
Number of eligible invited	2,640	46,728	3,303	54,477	107,148
Number screened	2,329	40,691	2,949	47,313	93,282
Uptake	88.2%	87.1%	89.3%	86.8%	87.1%

Uptake by age, gender and type of invitation (initial or subsequent) is shown in Figure 1. This demonstrates that subsequent clients are returning to the programme in high numbers. This is an indication that these clients find the test and the service acceptable and are happy with the service they received in the first round of screening. The uptake rate among initial clients remains a challenge, with low uptake reported especially among the older age groups and in males.

Figure 1: Uptake by age, gender and invitation type in Round Two



Programme coverage

Coverage by invitation

BowelScreen aims to invite all eligible clients aged 60-69 for screening every two years. To that end, a quality standard 'coverage by invitation' measures the proportion of the eligible population on the bowel screening register that has been invited in the previous two years. This figure for the two-year period ending 31 December 2017 was 100 per cent, which means the programme standard was achieved, and that all clients on the register were invited in the round. This indicates the effectiveness of BowelScreen in reaching the target population.

Screening outcomes

As its primary screening tool, the programme uses the FIT, which looks for a level of blood in the stool sample provided. This blood is often not visible to the human eye. If a level of blood is detected (a FIT positive result), a colonoscopy is offered in one of the programme's contracted endoscopy centres.

The results of FIT testing for initial clients invited during 2016 and 2017 are shown in Table 4. In the reporting period, for clients who had their initial or first screen, the FIT positive rate was 3.8 per cent, which is lower than in Round One. The positivity rate was higher among males than females, with older males having a rate of over 6 per cent.

Of the 132,405 FIT kits examined, a small number (175) were unsatisfactory and these individuals were offered a repeat test. The unsatisfactory FIT rate as a percentage of the number returned was somewhat higher in Round Two, but remains low.

Table 4: BowelScreen screening outcome: Initial screen by age group and gender in Round Two

Performance Parameter	Male 60-64	Male 65-69	Female 60-64	Female 65-69	Overall Round One	Overall Round Two
Number of satisfactory FIT returns	49,797	11,083	60,639	10,558	196,238	132,405
% Satisfactory FIT by number returned	99.9	99.8	99.9	99.7	99.9	99.9
Number of unsatisfactory FIT	55	17	66	36	202	175
% Unsatisfactory FIT by number returned	0.11	0.15	0.11	0.34	0.10	0.13
Number of FIT positive	2,218	689	1,613	472	9,786	5,006
% FIT positive of satisfactory	4.4	6.2	2.7	4.5	5.0	3.8
Number of FIT negative	47,579	10,394	59,026	10,086	186,452	127,399
% FIT negative	95.5	93.8	97.3	95.5	95.0	96.2

The results of FIT testing for subsequent clients invited during Round Two are shown in Table 5. In Round Two among clients who had their second or subsequent screen the FIT positive rate was 3.4 per cent. In the older age groups the FIT positive rate was higher for males than females. The positivity rate was highest among males aged 60-64.

Of the 93,969 FIT kits examined among subsequent clients, a small number of returned FIT kits (122) were unsatisfactory and these individuals were offered a repeat test.

Table 5: BowelScreen screening outcome: Subsequent screen by age group and gender in Round Two

Performance Parameter	Male 60-64	Male 65-69	Female 60-64	Female 65-69	Overall
Number of satisfactory FIT returns	2,329	40,691	2,949	47,313	93,969
% Satisfactory FIT by number returned	100.0	99.9	99.7	99.9	99.9
Number of unsatisfactory FIT	1	53	8	60	122
% Unsatisfactory FIT by number returned	0.04	0.13	0.27	0.13	0.13
Number of FIT positive	99	1,712	79	1,279	3,198
% FIT positive of satisfactory	4.3	4.2	2.7	2.7	3.4
Number of FIT negative	2,230	38,979	2,870	46,034	90,771
% FIT negative	95.5	93.8	97.3	95.5	96.2

Colonoscopy

Colonoscopy is the procedure used to assess the colon and rectum following a positive FIT result. It enables examination, biopsy and subsequent histopathological diagnosis of abnormalities in the bowel, as well as identification and endoscopic removal of polyps and adenomas.

Clients who receive a positive FIT result are contacted by a dedicated nurse from a BowelScreen-contracted endoscopy centre for a pre-assessment in order to establish their suitability for colonoscopy. This pre-assessment includes a telephone interview enquiring about their general health, any co-morbidities, and any medication they may be taking.

Almost 80 per cent of clients who had a positive FIT underwent colonoscopy at a BowelScreen contracted endoscopy centre (Table 6). This is below the QA (Quality Assurance) standard of 85 per cent. However, taking just those clients who had a positive FIT and were deemed suitable for colonoscopy almost 95 per cent accepted and underwent a colonoscopy.

The reason why clients with positive FIT results decline colonoscopy is currently unknown. Future plans include capturing this information to support service development and delivery.

Table 6: BowelScreen client colonoscopy referrals Rounds One and Two

Performance Parameter	Round One	Round Two	QA Standard
Number of clients referred for colonoscopy	9,786	8,204	
Number of clients who completed pre-assessment	8,725	7,067	
Number deemed suitable for colonoscopy	8,579	6,906	
Number attending colonoscopy	8,062	6,523	
Acceptance rate based on positive FIT	82.4%	79.5%	>85%
Acceptance rate for colonoscopy based clients deemed suitable	94.0%	94.5%	

Colonoscopy waiting times

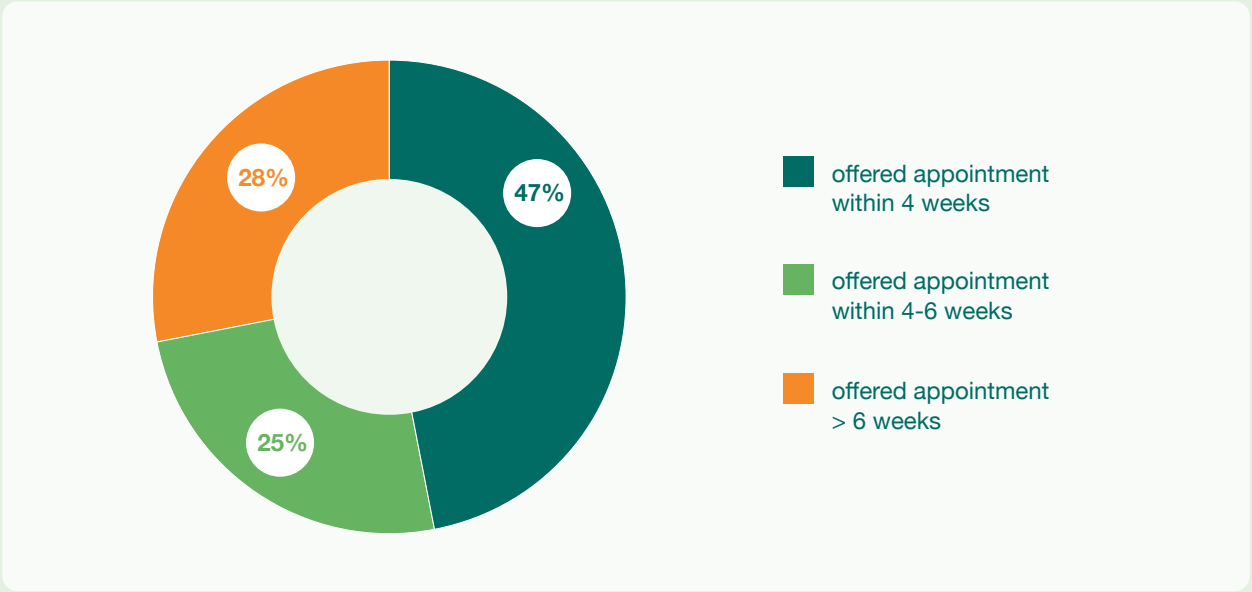
The BowelScreen programme QA standard requires that a colonoscopy will be offered within four weeks in over 90 per cent of suitable cases. This is to reduce unnecessary anxiety to screening participants, and to facilitate timely investigation of positive (abnormal) screening results.

Providing access to colonoscopy services in a timely manner depends on many factors including demand for colonoscopy services, capacity and waiting list management protocols.

Waiting times posed a challenge to the programme over the first round of screening and this has continued into the second round. The proportion of clients from Round Two who were offered a colonoscopy appointment within four weeks was 47 per cent, compared to the programme target of over 90 per cent (Figure 2). A further 25 per cent were offered an appointment within four to six weeks and over 28 per cent of clients had to wait longer than six weeks for an appointment. In Round One the comparative rates were 63 per cent, 20 per cent and 16 per cent respectively.

Nationally, colonoscopy capacity is constrained by the short supply of endoscopists with an appropriate level of skill. Pressures on symptomatic services may have an impact on waiting times for clients referred from BowelScreen. While many of these issues are outside of the programme's control, continued efforts have been made to gain improvements in these waiting times, and ensure that BowelScreen patients are treated as urgent symptomatic. This is supported by Memorandum of Understanding agreements with providers. The Programme continues to work with providers in delivering a service within agreed targets.

Figure 2: Colonoscopy waiting times Round Two



Bowel preparation

Effective bowel preparation is crucial to carrying out a colonoscopy as it supports improved detection of adenomas and/or polyps, as well as caecal intubation. Poor bowel preparation is associated with failure to reach the caecum, and hinders the detection of lesions.

In the reporting period over 6,500 clients presented for a colonoscopy at one of BowelScreen's 14 contracted endoscopy centres. Overall, bowel preparation was effectively carried out, colonoscopies could proceed, and completion rates were high. Reported adverse effects were low and well within QA standards. Colonoscopy performance is shown in Table 7. There were small increases in all parameters in Round Two, but all results remained within the standard expected.

Table 7: Colonoscopy performance Rounds One and Two

Quality Standard	Overall Round One	Overall Round Two	QA Standard
Bowel cleanliness adequate or excellent	92.7%	94.2%	≥90%
Reported colonic perforation rate (per 1,000 colonoscopies)	0.50	0.8	<1
Reported post-polypectomy perforation rate (per 1,000 colonoscopies)	0.25	1.4	<2
Post-polypectomy bleeding requiring transfusion (PPB)	0.06%	0.11%	<1%
Colonoscopy complete	95.6%	96.3%	

Computed tomography colonography

On some occasions, it is not possible to carry out a colonoscopy on a patient. In these instances, the patient may be referred for a computed tomography (CT) colonography.

Of the 8,204 clients with a positive FIT, 204 clients were referred for CT colonography; this corresponds to 2.5 per cent of all FIT positive clients and was within the programme standard of less than 10 per cent. Of those referred for CT colonography all had the procedure performed. Colonography performance is shown in Table 8.

Table 8: BowelScreen client colonoscopy referrals Rounds One and Two

Quality Standard	Round One	Round Two	QA Standard
Referral rate of clients to CT colonography following a positive FIT	2.8%	2.5%	≤10%
Number of clients with CT performed	271	204	
Clients with CT colonography performed within 30 days of referral*	79.6%	80.9%	≥95%
Clients with CT colonography complete/adequate	99.3%	99.5%	≥95%
CT colonography reports issued to programme within 15 working days of examination**	98.5%	98.9%	
CT colonography reports issued to programme within 10 working days of examination	95.8%	99.4%	

* *This figure does not necessarily capture individuals offered appointments within the timeframe of 30 days but who deferred their appointment often due to travel distances, personal reasons, etc.*

** *There is a programme standard of ≤15 working days for report turnaround time after CT colonography examination.*

Histopathological Findings

Cancers detected

During the reporting period, 410 clients were diagnosed with bowel cancer. There were 271 colon cancers, 111 rectal cancers and 28 cases of cancer where the site was unconfirmed, giving an overall cancer detection rate of 1.8 per 1,000 clients screened by the FIT (Table 9). This corresponds to a detection rate of 6.3 per cent at colonoscopy.

The cancer detection rate among initial clients overall (2.05 per 1,000 clients screened) was higher than in subsequent clients 1.48 per 1,000 clients screened). This is to be expected as subsequent clients have been screened within the last two years and it is expected that abnormalities might have been found in the previous round of screening.

Of those cancers diagnosed and treated by BowelScreen where the stage was known to the Programme, over 59 per cent were stage I or II. This indicates that they were detected at an early stage where successful treatment could be expected (Table 9).

The adenoma detection rate has increased from 54 per cent in Round One to 57 per cent in Round Two both of which are well above the standard of 45 per cent. In addition, in Round Two, 584 of screening participants had adenomas which were multiple or large adenomas, termed advanced adenomas (AA). These AAs are considered high risk for progression to bowel cancer.

Histopathology outcomes during the second screening round are detailed in Table 9.

Table 9: Histopathology outcomes for the BowelScreen programme in Rounds One and Two

Performance Parameter	First screen	Subsequent screen	Overall Round One	Overall Round Two	QA Standard
Number of cancers	271	139	521	410	
Cancer detection rate per 1,000 clients screened	2.05	1.48	2.65	1.81	
% Stage I and II *	59.3	61.2	71.0	59.9	
Adenoma detection rate	59.0%	53.0%	54.0%	56.7%	>45%
Number of clients with adenomas	2,348	1,352	4,369	3,700	
Number of adenomas removed	8,811	3,556	12,983	12,367	
Number of clients with advanced adenomas removed	406	178	774	584	
Adenomas with high grade dysplasia	5.0%	5.3%	5.6%	5.1%	<10%
Sessile Serrated Lesions (SSL)	643	236	676	879	
SSL with high-grade dysplasia	0.8%	0.0%	1.2%	0.6%	

**This excludes cases that were diagnosed by BowelScreen but went elsewhere for treatment*

Cancer detection rate

The cancer detection rate among male clients was higher than for female clients in Round Two. This pattern was also observed in the first round of screening[5] and it reflects statistics from the National Cancer Registry of Ireland[1]. There was a significant reduction in the cancer detection rate for both males and females in Round Two compared to Round One (Figure 3).

Figure 3: Cancer detection rate (per 1,000 screened) by gender and screening round

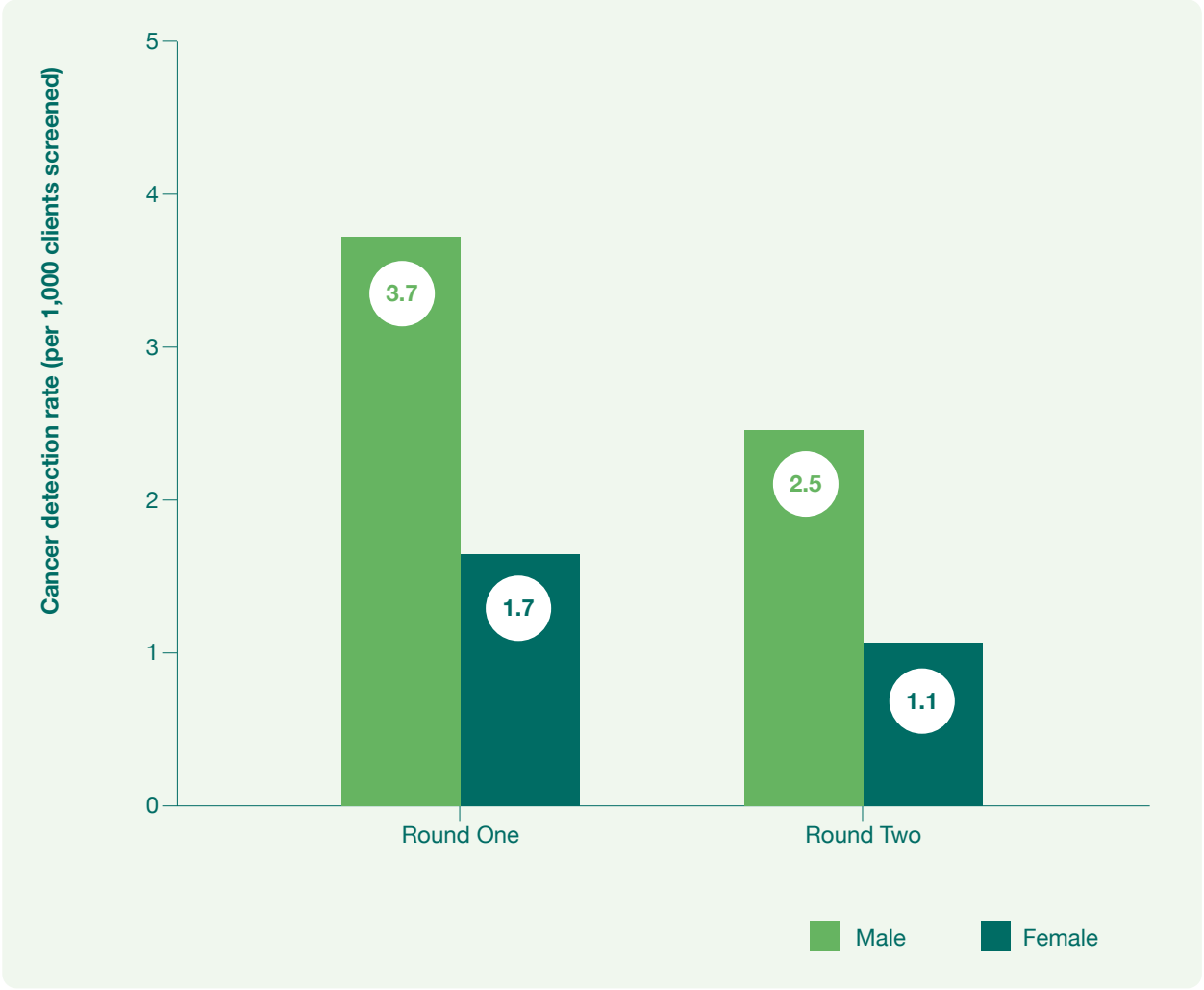
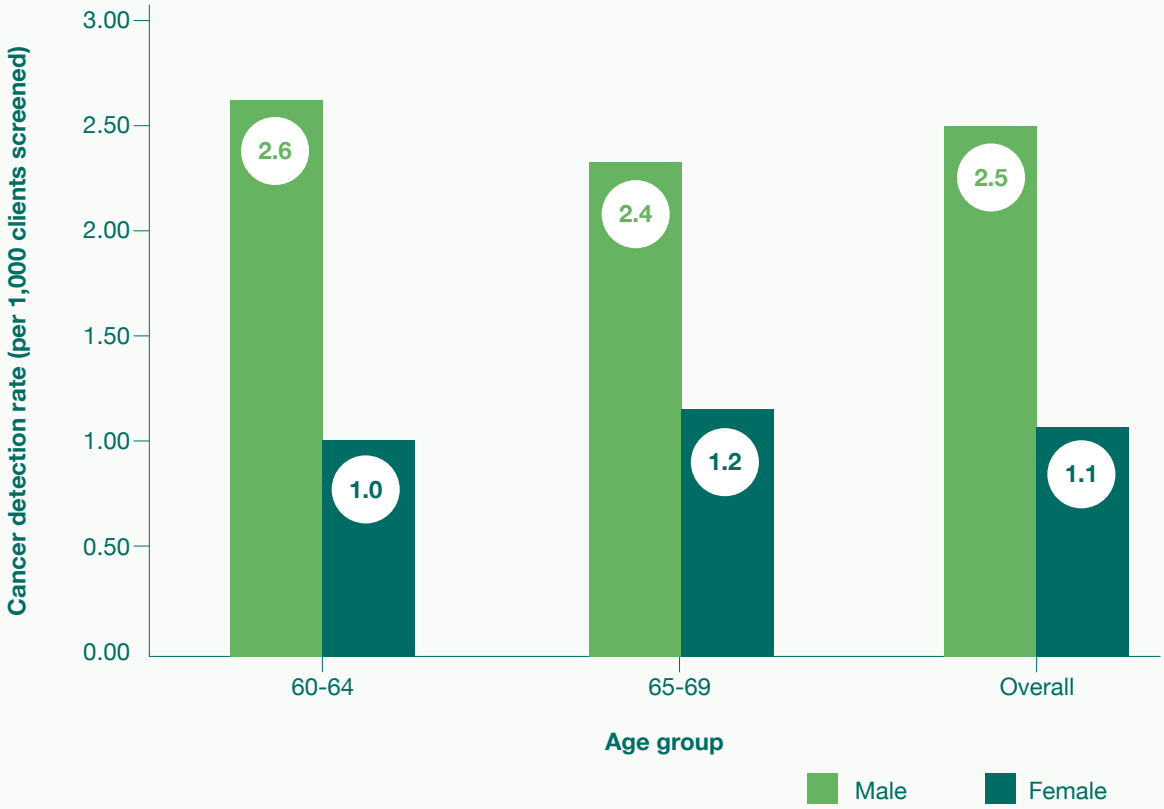


Figure 4 shows the cancer detection rate (per 1,000 clients screened) by gender and age group. The cancer detection rate among males in all age groups was over twice that of females. The cancer detection rate among females has increased with age whereas the cancer detection rate in males has fallen.

Figure 4: Cancer detection rate (per 1,000 screened) by gender and age group



Adenoma detection

Over 12,300 adenomas or polyps were removed during the reporting period. These are abnormal tissue growths that can become cancerous at a later stage. The removal of pre-cancerous adenomas greatly reduces the risks associated with future bowel cancer development. Adenomas with the most risk associated with bowel cancer are known as advanced adenomas (AAs). Advanced adenomas are defined as the finding of five or more small adenomas in the large bowel or one or more adenomas equal to or greater than 2 cm.

The purpose of BowelScreen is not only the detection of early asymptomatic bowel cancers, but also the finding and removal of AAs thereby reducing the incidence of bowel cancer.

During the reporting period, 584 screening participants had AAs removed from their bowel, greatly reducing the possibility of subsequent cancer development. These individuals are offered further annual surveillance colonoscopies to detect and treat any adenoma recurrence at a later date.

BowelScreen Charter Indicators

BowelScreen has drawn up a charter of programme commitments to our clients, and it is shown on the inside front cover of this document. This outlines the service that clients can expect from the programme. In addition BowelScreen has developed standards to ensure that timelines are reasonable in order to minimise waiting times and possible anxiety for clients. Table 10 outlines how BowelScreen performed against these standards the 2016-2017 period.

In general, timelines for dispatch of FIT and receipt of results were very well adhered to. However, only 76 per cent of clients were invited to have a screening test within two years of becoming known to the programme or becoming eligible for screening. Measures to improve this are underway.

Table 10: BowelScreen charter results

Quality Standard	Round Two	QA Standard
Proportion of FIT test kits and instructions dispatched within five working days to clients who requested them	100.0%	≥95%
Satisfactory FIT results where file sent to NSS within three working days	99.5%	100%
Proportion of satisfactory FIT results where file sent to mail provider within 5 working days of result received by NSS	98.4%	90%
Proportion of satisfactory FIT results where file sent to mail provider within 24 working days of sample received at lab	100.0%	>90%
Proportion with positive FIT sent to screening colonoscopy unit within seven days of result received by NSS	100.0%	100%
Proportion of clients who received first-ever invitation within 24 months of becoming known to the programme, or becoming eligible	76.3%	>90%

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BowelScreen
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