



UK National Screening Committee Consultation on the permanent discontinuation of Bowelscope in the English Bowel Screening Programme

Context

A single flexible sigmoidoscopy (“Bowelscope”) for those aged 55 was introduced into the Bowel Screening Programme in England in 2013 with an aspiration to achieve complete coverage of the English population by 2016.¹ This had been approved by UK NSC on the basis of evidence from randomised controlled trials, and in particular from the UK Flexible Sigmoidoscopy Screening Trial (UKFSST), which had demonstrated reductions in both disease-specific mortality and incidence². At the time of introduction of Bowelscope, the English screening programme consisted of guaiac faecal occult blood testing (gFOBT) offered biennially to those between the ages of 60 and 74, and, in addition to its proven benefits Bowelscope was seen to be offering an opportunity for people under 60 to engage with bowel screening.

However, full implementation of Bowelscope has proved to be problematic for three main reasons. First, the overall uptake of Bowelscope in England has been reported at around 40%,³ considerably less than the 70% found in the UKFSST. Personal communication between the UK NSC and the Public Health England Bowel Cancer Screening Programme team suggests that, with some variation, uptake is now at 45% overall. There is evidence that uptake of Bowelscope is also lower in socioeconomically deprived and black and minority ethnic groups⁴. Second, an analysis of Bowelscope performance indicated that the adenoma detection rate (ADR) in the screening programme did not reach that achieved in the UKFSST in 55-56-year olds (ADR in UKFSST 12.1%, in BCSP 9.2%)⁵. Third, in 2015, the UK NSC approved the use of FIT as the primary screening test for bowel cancer in the UK. This complicated the position of Bowelscope within the English programme.

In 2018 a new recommendation in relation to the NHS Bowel Cancer Screening Programme was made after extensive modelling work carried out by SCHARR with significant stakeholder and academic input into the model. This was to implement a FIT-based programme for those aged 50-74, at as low a threshold as possible (down to 20 µg/ml), to halt the roll out of Bowelscope, consider decommissioning Bowelscope where it had been rolled out when FIT was available to 55- year olds and to carry out research to establish if there was a role for the test within the FIT-based screening programme.⁶

The recommendation was made following a three-month consultation based on the model. Two service options arising from discussions on the model were the focus of the consultation. The options presented for comment were: **A** Combine Bowelscope at trial uptake and quality standards for 58-60 year-olds with a lower sensitivity FIT **or B** Offer FIT to 50-74 year- olds with a view to decreasing the threshold and decommission (or not start) Bowelscope. Thirty-six responses were received and the majority of those who stated a preference expressed a preference for option B.

The revised UK NSC recommendations were accepted by ministers:



<https://www.gov.uk/government/news/bowel-screening-to-start-at-50>

On July 13th 2020 the Chair of UK NSC received a letter from Professor Stephen Powis, National Medical Director for NHS England to request that UK NSC consider making a recommendation to the Secretary of State that, in line with the position in the rest of the UK, Bowelscope screening be discontinued permanently in England and to note that the UKNSC recommendation to undertake research into combinations of FIT and flexible sigmoidoscopy for screening cannot be supported in England by NHS England. This was based on the following factors:

- Bowelscope is only delivered in England, it has not been delivered in the other devolved administrations.
- In England, to date, Bowelscope has only been rolled out to 60% of GP Practices.
- Since the introduction of FIT testing in England, some providers have experienced uptake and positivity rates much higher than had been planned, and this, as well as a significant improvement in the sensitivity at which a screen positive was defined, has resulted in significant increases in demand for screening colonoscopy. This experience has impacted waiting times, diagnostic testing and consequently overall capacity putting pressure on services.
- Prior to the COVID-19 pandemic, in consultation with all English NHS Bowel Screening Programme Directors, and as part of national operational mitigation measures, English NHS BCSP screening centres took the option to either pause or reduce Bowelscope activity in order to alleviate the demand on pressured services.

The impact of the COVID-19 pandemic has put further pressure on services and local decisions were made by all NHS service providers to pause the Bowelscope screening element of the NHS BCSP, along with the majority of endoscopy services, since they determined this was an imperative to support the NHS response to COVID and release capacity to manage those with positive FIT results already in the pathway. Those with a positive FIT result are at much higher risk of cancer than the average population so their colonoscopies have been prioritised along with two week wait symptomatic referrals. Endoscopy units are not running at usual capacity levels due to infection control requirements. The UK NSC's criterion 18 states that adequate staffing and facilities for testing, diagnosis, treatment and programme management should be available prior to the commencement of the screening programme. Unfortunately, this criterion cannot be met in England. Catching up with the backlog of people with positive FIT results requires significant extra colonoscopy capacity and there is insufficient capacity to recommence Bowelscope Screening in the short term as part of the restoration of NHS BCSP services post COVID-19 or in the longer term as part of expanding the age cohort in the NHS BCSP using FIT to include 50 to 59 year-olds. As the FIT programme expands by adding new age groups and improving the sensitivity of the test the number of colonoscopies increases very



quickly. BSS requires around 10,000 follow on colonoscopies per year. If these colonoscopies were used to support FIT this would accelerate the achievement of a larger age extended FIT programme.

- NHS England have presented modelling, done before the pandemic, on the projected numbers of colonoscopies required, to illustrate how released BSS capacity would support the expansion of FIT and release colonoscopy capacity. This analysis showed that based on first expanding the FIT test bowel screening programme to 54 year olds and then extending to 56 and 58 year olds in, the demand for subsequent colonoscopies for bowel screening would rise initially to 72,000 (a 24% increase from the 19/20 level of 58,000 in 19/20) then progressively to 113,000 per annum when FIT age extension is completed, a further 70% growth from the 19/20 baseline. Avoiding the overlapping demand from Bowel Scope of just over 10,000 (based on 19/20 data) would release this capacity, combined with further colonoscopy capacity growth to accommodate the additional demand from FIT expansion.

Considerations

In response to NHS England's request to consider discontinuing Bowelscope, the UK NSC has considered the following points:

- From the evidence supplied by NHS England, there is no doubt that NHS England is assured that endoscopy capacity in the immediate post-COVID phase is insufficient to support both Bowelscope and a FIT-based bowel screening programme. In the longer term this is exacerbated by the ambition in the NHS Long Term Plan and UKNSC recommendation to extend the offer of FIT screening to the 50-74 age range and to markedly improve the sensitivity of the FIT test.
- The 2018 recommendation on the role of FIT and Bowelscope in screening for bowel cancer was informed by the SchARR disease and cost effectiveness model. This concluded that FIT screening in the 50-74 age range at as low a threshold as possible (down to 20 µg/ml) is the most cost-effective approach. By contrast, the cost effectiveness of Bowelscope was found to be uncertain. For example, only one Bowelscope scenario in the base case analysis was estimated to be cost effective. This was when Bowelscope replaced FIT at age 58 – 59 in the context of two-yearly FIT at a cut off of 161 between the ages of 51 - 65. After this, the possibility of a one off Bowelscope being cost effective within a FIT screening strategy was confined to sensitivity analyses in which key conditions did not reflect current practice. These included a Bowelscope uptake of 55% and a detection rate at UKFSST levels. The uncertainty in this area informed the Committee's emphasis on halting the roll out of Bowelscope and on the need for primary research.

Uptake of Bowelscope has been reported to be around 40% - 45%.³ This is at the lower end of the rates reported in two London based feasibility studies^{7,8} and considerably lower than the 70% uptake in the UKFSST which demonstrated



mortality and incidence reductions.² In part this may be due to the fact that the trial was carried out only in individuals who had already expressed an interest in Bowelscope screening. But more recent UK RCT evidence introduces a new concern about Bowelscope uptake. The English feasibility studies were carried out in 58 – 60 year olds in a setting in which gFOBT screening started at age 60. However, a 2014 – 15 trial in Scotland of Bowelscope at age 60 as an adjunct to the existing gFOBT programme starting at age 50 was only able to achieve an uptake of 17.8%.⁹ This suggests that offering Bowelscope to people already served by a stool-based screening test may be associated with even lower levels of uptake than offering it to a screening-naïve population. Restarting a drive to implement Bowelscope in a comparable context may be even more challenging than previously experienced. The Scottish study also reported a marked deprivation gradient with uptake decreasing from 25.7% in the least deprived quintile to 9.2% in the most deprived quintile.

- The UK NSC uses a set of criteria to assess the evidence relating to the effectiveness of programmes¹⁰ based on the criteria of Wilson and Jungner¹¹. These criteria provide a framework through which the committee, stakeholders and the public can assess the condition, the test, the programme and implementation. Cost effectiveness, feasibility, capacity and acceptability are crucial to an effective programme and are relevant to the question of Bowelscope:
 - a. Criterion 12 states: There should be evidence that the complete screening programme (test, diagnostic procedures, treatment/ intervention) is clinically, socially and ethically acceptable to health professionals and the public.
 - b. Criterion 14 states: The opportunity cost of the screening programme (including testing, diagnosis and treatment, administration, training and quality assurance) should be economically balanced in relation to expenditure on medical care as a whole (value for money). Assessment against this criterion should have regard to evidence from cost benefit and/or cost effectiveness analyses and have regard to the effective use of available resource.
 - c. Criterion 18 states: Adequate staffing and facilities for testing, diagnosis, treatment and programme management should be available prior to the commencement of the screening programme.

Thus, in the NHS in England, Bowelscope does not demonstrably meet three of the criteria that the UK NSC uses to appraise the viability, effectiveness and appropriateness of a screening programme.¹⁰

Conclusion

A number of points can be made to conclude the above discussion:



- Sensitive FIT without Bowelscope was found to be a cost-effective strategy. There was uncertainty about the cost effectiveness of Bowelscope when combined with sensitive FIT.
- Because of this the UK NSC developed a cautious approach to Bowelscope when FIT screening at sensitive levels was recommended. This centred on the need to halt the test's roll out and undertake research to establish whether or not Bowelscope remained a useful test within a programme with an improved stool test beginning at an earlier age compared to gFOB screening.
- The restart of the programme following its suspension during the Covid 19 pandemic imposes severe constraints on the available colonoscopy capacity. For example, it is not clear how long the necessary, but capacity limiting, infection control procedures will need to remain in place.
- The 2018 position on Bowelscope therefore needs to be changed to facilitate the restart of the FIT screening programme. This will mean prioritising implementation of sensitive FIT for the foreseeable future.
- The long-term future of flexible sigmoidoscopy is dependent on research. This is not achievable at present and may divert resources which are needed to restart the programme to restart the programme. If the current Bowelscope service is decommissioned it will be more difficult to reinstate in the future for research purposes. However, where a demonstrably cost-effective screening strategy is available, the Committee considers it justified to focus attention on this approach and receive the results of research should this be undertaken at some point in the future.

Proposal

It is therefore proposed that, on the basis of uncertain cost effectiveness and feasibility, practices where Bowelscope has been rolled out should permanently discontinue the test and direct all bowel screening resources to FIT and subsequent colonoscopy.

In accordance with standard procedures, a consultation with stakeholders will take place before this recommendation is submitted to ministers, but in view of the urgency occasioned by the need to restart the programme, this will be an accelerated process, and instead of the usual three months, this will be open over the next 2 weeks.

References

1. <https://scienceblog.cancerresearchuk.org/2013/03/21/new-bowel-screening-test-introduced-in-england/>
2. Atkin W, Wooldrage K, Maxwell Parkin D, et al. Long term effects of once only flexible sigmoidoscopy screening after 17 years of follow-up: the UK Flexible Sigmoidoscopy Screening randomised controlled trial. *Lancet* 2017;389: 1299–1311



3. McGregor LM, Bonello B, Kerrison RS, et al. Uptake of bowel scope (flexible sigmoidoscopy) screening in the English National Programme: the first 14 months. *J Med Screen* 2016; 23: 77–82.
4. McGregor LM, Bonello B, Kerrison RS, Nickerson C, Baio G, Berkman L, Rees CJ, Atkin W, Wardle J, von Wagner C. Uptake of Bowel Scope (Flexible Sigmoidoscopy) Screening in the English National Programme: the first 14 months. *J Med Screen*. 2016; 23: 77-82.
5. ScHARR, Optimising Bowel Cancer Screening Phase 1: Optimising the cost effectiveness of repeated FIT screening and screening strategies combining bowel scope and FIT screening, June 2018
6. Note of the UK NSC meeting of 29 June 2018. Available at: <https://drive.google.com/drive/folders/0B8eopFA9myQefk9EaIVQLWs5RIFBSmlUdzNvaUxuS2FhdWV2VWJaSTZ2YXITdVZDYXdyNDA>
7. Robb K et al Flexible sigmoidoscopy screening for colorectal cancer: uptake in a population-based pilot programme *J Med Screen* 2010; **17**: 75-78
8. Brotherstone et al, Uptake of population-based flexible sigmoidoscopy for colorectal cancer: a nurse-led feasibility study. *J Med Screening* 2007; **14**: 76-80
9. Steele RJC, Carey FA, Stanners G et al. Randomized controlled trial: Flexible sigmoidoscopy as an adjunct to faecal occult blood testing in population screening. *J Med Screen* 2020; 27: 59-67
10. <https://www.gov.uk/government/publications/evidence-review-criteria-national-screening-programmes/criteria-for-appraising-the-viability-effectiveness-and-appropriateness-of-a-screening-programme>
11. Wilson JMG, Jungner G. Principles and practice of screening for disease. Geneva: WHO; 1968. Available from: <http://www.who.int/bulletin/volumes/86/4/07-050112BP.pdf>



UK National
Screening Committee

Comments received during truncated consultation.

UK National Screening Committee

Discontinuation of bowel scope in the English Bowel Cancer Screening Programme

Consultation comments pro-forma

1)

Name:	Jessica Lewington	Email address:	xxxx xxxx
Organisation (if appropriate):	Bowel Cancer UK		
Role:	Policy Manager		
Do you consent to your name being published on the UK NSC website alongside your response?			
Yes No			
Section and / or page number	Text or issue to which comments relate	Comment <i>Please use a new row for each comment and add extra rows as required.</i>	



Proposal, page 5.	Proposal	<ul style="list-style-type: none">• As outlined in the context of this consultation, there have been a number of challenges with the roll-out of the one-off Bowel Scope Screening (BSS) programme for those aged 55. Namely, the ambitious plan to implement BSS in England has demonstrated four practical problems:<ol style="list-style-type: none">1. Very slow adoption due to limited Flexi-Sigmoidoscopy resource;2. Poor overall population uptake;3. Significant referral rate to colonoscopy;4. Challenge to recruit and retain the Flexi-Sigmoidoscopy workforce. • BSS was originally due to be fully rolled out by end of 2016, however because of resource and capacity constraints, this has stalled and as a result, only 60% of
-------------------	----------	---



		<p>GPs have access to the programme. The COVID-19 pandemic has further served to put unprecedented pressure on endoscopy and wider diagnostic services.</p> <ul style="list-style-type: none">• Bowel Cancer UK therefore believes there is logic in the discontinuation of BSS suggested by the UK NSC in order to support the recovery of endoscopy services, as well as Pathology capacity due to the reduction in biopsies coming through from BSS.• However, where BSS provided a one-off diagnostic test for those aged 55, discontinuing BSS leaves no service for people in their 50s who are at risk. Bowel Cancer UK therefore advises BSS should be immediately replaced by FIT at age 55 (or approximate age i.e. 54-56), with a detailed and fully-funded plan for full age extension from 50-59 years and reduction of FIT threshold to 20 ug/g in
--	--	---



UK National
Screening Committee

		<p>line with UK NSC recommendations. This needs to be completed in a meaningful timeframe.</p> <ul style="list-style-type: none">• We further recommend that the current flexi-sigmoidoscopy workforce be re-trained to undertake colonoscopies to support this ambition.
--	--	---

Please return to the Evidence Team at screening.evidence@nhs.net by 11:45pm, Tuesday 2 September 2020

UK National Screening Committee

Discontinuation of bowel scope in the English Bowel Cancer Screening Programme

Consultation comments pro-forma

2)

Name:	XXXX XXXX	Email address:	XXXX XXXX
Organisation (if appropriate):	The Royal College of Radiologists		
Role:	XXXX XXXX		



Do you consent to your name being published on the UK NSC website alongside your response?

Happy for the response to be published, but it should be attributed to the RCR.

Section and / or page number	Text or issue to which comments relate	Comment <i>Please use a new row for each comment and add extra rows as required.</i>
General	The discontinuation of bowel scope screening and use of FIT seems appropriate.	
Context (final para) P3	The expansion of FIT/colonoscopy screening	<p>There will be a large increase in colonoscopy numbers if FIT alone is used, particularly if the age range for screening is widened. Even considering the endoscopy capacity released by discontinuing bowel scope screening, many more colonoscopies will be needed. From the radiology perspective, accommodating this will likely displace other work into imaging-based investigations such as CT colonography. Thus, resource will also be needed to cover this increase, as well as that needed to provide and expand endoscopy services.</p> <p>It is important that this does not come at the expense of other imaging-based screening programmes (e.g. breast screening) which are also under pressure at present as they recover post COVID.</p>



Please return to the Evidence Team at screening.evidence@nhs.net by 11:45pm, Tuesday 2 September 2020

UK National Screening Committee

Discontinuation of bowel scope in the English Bowel Cancer Screening Programme

Consultation comments pro-forma

3)

Name:	Simone Cort	Email address:	xxxx xxxx
Organisation (if appropriate):	British Society of Gastroenterology (BSG)		
Role:	BSG Secretariat on behalf of the BSG Clinical Services & Standards Committee (CSSC)		
Do you consent to your name being published on the UK NSC website alongside your response?			
Yes			
Section and / or page number	Text or issue to which comments relate	Comment	
	General	<i>Please use a new row for each comment and add extra rows as required.</i>	
	General	The case for discontinuation of Bowelscope has been made very well with presentation of relevant evidence. We support the widespread use of FIT testing in the 50-74-year-old age group as an alternative screening strategy to detect and prevent colorectal cancer	
	General	Age extending the FIT screening to include 50 – 59 years would be an appropriate alternative screening strategy to the Bowel Scope programme. BSG supports the training of current Bowel Scope practitioners to be trained in both	



*UK National
Screening Committee*

		diagnostic and therapeutic colonoscopy to extend their role into the BCSP programme

Please return to the Evidence Team at screening.evidence@nhs.net by **11:45pm, Tuesday 2 September 2020**



*UK National
Screening Committee*

UK National Screening Committee

Discontinuation of bowel scope in the English Bowel Cancer Screening Programme

Consultation comments pro-forma

4)



RCP endorsement of
BSG comments 2020.p



*UK National
Screening Committee*

UK National Screening Committee

Discontinuation of bowel scope in the English Bowel Cancer Screening Programme

Consultation comments pro-forma

5)



RCP comments
2020.pdf



UK National
Screening Committee

UK National Screening Committee

Discontinuation of bowel scope in the English Bowel Cancer Screening Programme

Consultation comments pro-forma

6)

Name:	Alison Ball	Email address:	XXXX XXXX XXXX XXXX
Organisation (if appropriate):	Royal College Of Nursing		
Role:	Gastrointestinal Forum steering Group member (Endoscopy Clinical Service lead at NUH)		
Do you consent to your name being published on the UK NSC website alongside your response?			



Yes		
Section and / or page number	Text or issue to which comments relate	Comment <i>Please use a new row for each comment and add extra rows as required.</i>
	Options A or B	Completely agree that option B is the correct one. Lowering the threshold, offering FIT testing and decommissioning bowelscope as well as halting the roll out is the right thing to do, especially in the current climate.

Please return to the Evidence Team at screening.evidence@nhs.net by 11:45pm, Tuesday 2 September 2020

UK National Screening Committee

Discontinuation of bowel scope in the English Bowel Cancer Screening Programme

Consultation comments pro-forma

7)



*UK National
Screening Committee*



Cancer Research
comments 2020.pdf