Interventions to increase bowel screening uptake

Final Report

*Accelerate, Coordinate, Evaluate (ACE) Programme*
An early diagnosis of cancer initiative supported by:
NHS England, Cancer Research UK and Macmillan Cancer Support

ACE Bowel Screening Cluster
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**About the ACE Programme**

The Accelerate, Coordinate, Evaluate (ACE) Programme is an early diagnosis of cancer initiative focused on testing innovations that either identify individuals at high risk of cancer earlier or streamline diagnostic pathways. It was set-up to accelerate the pace of change in this area by adding to the knowledge base and is delivered with support from: NHS England, Cancer Research UK and Macmillan Cancer Support; with support on evaluation provided by the Department of Health's Policy Research Units (PRUs).

The first phase of the programme consisted of 60 projects split into various topic-based clusters to facilitate evidence generation and learning. The second phase (pilots live from January 2017) comprises five projects exploring Multidisciplinary Diagnostic Centre (MDC) based pathways. The learning from ACE is intended to provide ideas and evidence to those seeking to improve local cancer services. The evaluations and findings are produced independently, and are therefore, not necessarily endorsed by the three supporting organisations.
Executive Summary

The UK national cancer screening programmes are aimed at large groups of the population, most of whom have no symptoms of cancer. Essentially they are established to look for early signs that cancer is potentially developing but is as yet undiagnosed. Regular cancer screening has the potential to reduce incidence of the disease and improve outcomes for those patients whose cancers are diagnosed and can be treated.

In order to achieve the desired public health impact amongst targeted populations, cancer screening programmes require high levels of participation and it is accepted that decisions to participate in cancer screening should be free from undue pressure and coercion and be well-informed.

The NHS Bowel Cancer Screening Programme (BCSP) has been operational since 2006, with regular bowel cancer screening participation considered increasingly important in preventing and detecting cancer. It offers a significant opportunity to diagnose more cancers earlier and improve outcomes for patients by treating cancers and other conditions. Screening has been shown to reduce the risk of dying from bowel cancer by 16% in the population invited.¹

There are two aspects to the national bowel cancer screening programme:

- The original guaiac Faecal Occult Blood test (gFOBt). For men and women aged 60 to 74 in England with invitation to self-test every two years
- The more recent complementary bowel scope screening programme for all 55-year olds. A one-off flexible sigmoidoscopy test currently being rolled out.

In 2015/16, overall percentage uptake for gFOBt bowel screening (people adequately screened within 6 months of invitation) was 56.4%, with significant variation in compliance across all CCG areas. This geographical variation and the range of screening uptake achieved across different population groups presents a real opportunity to improve participation.

In January 2016, the UK National Screening Committee (NSC) recommended the use of the Faecal Immunochemical Test (FIT) as the primary test for bowel cancer screening in place of the gFOBt, which was formally announced by the government in June 2016. A national implementation group is leading the design, procurement and co-ordination of the new FIT, to be operational in England from April 2018. NHS England (NHSE) suggest almost a third of a million more people are expected to complete the FIT in 2018/19 (compared to gFOBt) and a fifth more cancers will be diagnosed earlier.²

The BCSP largely operates in parallel to primary care service provision. More should be done across the system to integrate primary care involvement with the national screening process, considering the evidence that ‘more people who are sent bowel screening kits through the post, are likely to complete the test if there is endorsement from their GP on all supporting correspondence.’³

Achieving World-Class Cancer Outcomes (A Strategy for England 2015-2020)² suggests that implementation of ‘feasible, acceptable and cost-effective strategies to improve screening uptake, particularly amongst non-responders, are fundamentally important for the success of the screening programmes.’

Recent evidence published by Cancer Research UK (CRUK) and the National Cancer Registration and Analysis Service (NCRAS), suggest bowel cancer is more likely to be diagnosed at the earliest stage if it is picked up by screening; this provides a significant incentive to improve screening compliance.⁴,⁵
Purpose

The ACE Programme is organised into a series of thematic clusters; this report summarises the progress of the bowel screening cluster, incorporating local NHS projects intent on improving gFOBt screening participation, focusing in particular on effects in underserved populations. It also includes details from two projects who have been considering how reasonable adjustments to the bowel screening pathway can improve access for patients with a learning disability.

The main output for this cluster is its contribution to the evidence base of what works best in terms of ‘effective intervention’ to improve bowel screening gFOBt uptake. The ACE projects have added to the growing evidence that GP endorsement and engagement in the screening process can improve uptake rates.

The ACE projects and their stakeholders are challenged by the recommendation in the Cancer Strategy for England 2015-2020² (Recommendation 10), that NHS England should incentivise GPs to take responsibility for driving increased uptake of bowel screening in the populations, with an ambition of achieving 75% uptake in all CCGs by 2020.

The evidence detailed in this report also contributes to the understanding of which interventions support the earlier diagnosis of cancer that in turn could be transformative in terms of improving survival rates, reducing mortality and improving quality of life.

The report contents will be of particular interest to commissioners of cancer services implementing Best Possible Value (BPV) pathways,⁶ designed to incentivise high quality and cost-effective care, and to public health commissioners and decision-makers modelling the effects of interventions and return on investment costs against the core value of their benefits and improved outcomes for patients.⁷

Context

A number of factors help to set the context for including ‘improving bowel screening uptake’ as one of the key concepts of the ACE Programme, particularly given the significant geographical variation and range of screening uptake rates across the different population groups:

Rising incidence. Bowel cancer is the fourth most common cancer type registered in the UK, with 41,300 new cases diagnosed in the UK in 2014; that’s 110 new patients diagnosed every day. Regular bowel cancer screening contributes to reducing incidence and improving outcomes for those patients who can be diagnosed and treated at an earlier stage.⁹

Mortality and late stage disease. Around 15,900 people died of bowel cancer in 2014 in the UK, that’s more than 44 people every day.¹⁰ Most bowel cancers are diagnosed at a late stage of disease, with evidence indicating that patients whose cancers are diagnosed at an earlier stage almost always have improved chances of survival following successful treatment.¹¹

Poor survival. Improving patient survival from a diagnosed cancer is a key challenge identified in Achieving World Class Cancer Outcomes: A Strategy for England 2015-2020² with survival estimates in the UK currently below those in many other European countries. The figures confirm the long-standing suspicion that patients diagnosed with cancer following an emergency admission to hospital are much more likely to be diagnosed at a later stage, and that bowel cancers diagnosed following screening by the national BCSP have the highest rates of survival over the time period.⁴,⁵
Earlier diagnosis. An earlier cancer diagnosis makes it more likely that patients will receive treatments such as surgery and radiotherapy which contribute to the majority of cases where cancer is treated successfully. The Routes to Diagnosis intelligence suggests that of the cases picked up by bowel screening (where the stage at diagnosis was known), more than one third (37%) were caught at the earliest stage (stage one) while fewer than one in ten (8%) were advanced (stage four).

Reduce inequalities. Evidence suggests there is a strong socio-economic gradient in gFOBt uptake, with studies reporting screening rates lower in areas of deprivation and in certain ethnic groups. The feedback is that the gFOBt is impractical, unhygienic, unacceptable, and has social and cultural taboos for many population groups.13-15

Barriers to participation. Previous studies of non-responders reveal few people are really set against screening16 and following further discussion or interviews with non-responders it often results in a willingness to do the self-test.17 Those that are opposed can’t face doing the gFOBt or can’t face a cancer diagnosis (at least at this point in time). ‘Unpleasantness,’ ‘disgusting test’ and ‘too invasive,’ are some of the barriers for many considering completing the gFOBt.18

Interventions. There is a wide range of potential interventions to improve access and increase participation in cancer screening services. A recent review of interventions to improve uptake found those that most consistently improved screening participation were - pre-screening reminders, general practice endorsement, personalised reminders for non-participants and offering a more culturally acceptable screening test.22 CRUK has run intervention pilots in London (2014), Wales (2015) and England (2015-16), 23-24 all aiming to explore ways of improving participation in eligible populations.

Bowel Scope. An additional bowel scope (flexible sigmoidoscopy) investigation is gradually being introduced in England as part of the national BCSP, offered to all men and women aged 55. Bowel scope screening helps to prevent cancer by finding and immediately removing adenomas and polyps, which reduces the chances of these developing into bowel cancer in the future. Recent evidence has shown people having bowel scope screening (at 55 years) have a 35% lower risk of developing bowel cancer and a 40% lower risk of dying from the disease. To put this into context that translates to approximately two fewer cases of bowel cancer and one death prevented from the disease for every 220 people screened.25
Introduction of the Faecal Immunochemical Test (FIT). The introduction of the improved FIT in screening patients for bowel cancer will begin in April 2018 as the primary test of the national BCSP replacing the gFOBT in England. Positive findings from previous FIT pilots have indicated improved uptake of screening in both sexes and across all quintiles of the index of multiple deprivation, with notable improvements in the most deprived quintile. The national FIT development team are considering the potential for risk stratification or whether positive thresholds should start high and reduce over time, based on already stretched endoscopy service provision.

Key Findings

The Programme generated informative data from twelve local projects in the bowel screening cluster. Eight of the projects were able to provide quantitative data regarding the outcome of their particular intervention, whilst the remaining projects have used aggregate-based data to illustrate progress. The following key findings and implications have been recognised by the bowel screening projects in testing their interventions:

GP endorsement & primary care engagement. For those projects using GP endorsed reminders to subjects who had not returned a completed kit within approximately three months, results varied among studies as to the strength of the effect on participation. In summary, results indicate the addition of a primary-care endorsed reminder at three months increased participation by 3 - 5% in absolute terms, particularly in practices with participation rates below the national average (A17, A20, A29, and A63). Estimates of the number of subjects needed to contact per additional participant ranged from 6 to 27.

The evidence gathered by the ACE projects confirms the benefits of engaging primary care in bowel screening uptake, encouraging informed choice. Most would like greater involvement and appropriate funding to sustain their interventions in the longer term.

Interventions targeted specifically at non-responders. A variety of methods were adopted, mainly by GP practices, in following up with non-responders (both first-timers and recurrent). These included: sending an additional GP endorsed reminder letter, making direct telephone contact or using pop-up prompts and alerts on GP clinical system. There is varied evidence as to whether direct telephone calls are more effective than sending letters. For some, an additional reminder letter was effective (A17, A20); others however recognise a direct conversation is required to provide a more personal touch to encourage participation (A34, A63). Emphasis is placed on consideration of the actual timing of the telephone call, the preferred use of mobile contact and the benefit of having a prepared telephone script to follow during the conversation. (A34) targeted segments of their population dominated by ethnic minority groups and provided language interpreters to overcome any translation issues; they indicate that positive conversations with patients are key to redressing the barriers and influence participation.

Varying invitation materials or strategy

Opportunistic Prompts. A number of the projects set up prompts and alerts on their GP clinical systems to endorse bowel screening opportunistically as patients contact or attend the practice. Though these prompts are difficult to evaluate, and rely on the healthcare professional to take responsibility and not overlook the reminder in favour of other competing healthcare messages, they are a visual alert to all practice staff of a patient’s screening status.
Third party consent for the request of replacement kits. The approval of the third party consent protocol by the BCSP has helped to resolve the issue of the inaccessibility of kits, particularly for primary care. A number of the ACE projects have tested the protocol, establishing an e-mail facility for healthcare professionals to request replacement kits, with good results. Some of the projects (A29, A84) have also made the request proforma available on their GP clinical systems enabling all the patient’s details to be automatically transferred onto the proforma for onward transmission to the screening hub. This process requires further approval by the National Screening Committee to ensure it fully conforms to the screening consent model, but demonstrates a positive integrated solution between primary care and the BCSP systems.

Reduce screening inequalities. Two of the ACE projects considered how reasonable adjustments to the screening pathway could help people with learning disabilities (A47, A84). Both projects have linked with dedicated local community health teams in identifying their registered client group, providing training and education sessions to health professionals and client groups, and developing practical resources to ensure participation - how to use the self-test, easy-to-read pictorial leaflets and DVD materials for patients and their carers (A47) piloted the use of an additional care note flag on the BCSP system for patients with a learning disability, populated by up to date information generated from primary care. At the start of the project 7 patients with a learning disability were known to the screening hub; at the 6-month interim reporting stage there were 209 such patients recorded. As a consequence the screening hub has tailored its screening invitation for patients with a learning disability to the community learning disability teams for additional support.

Re-engaging patients for colonoscopy testing. One of the ACE projects (A30) had a different objective in re-engaging patients with the BCSP who had previously tested positive at gFOBt screening, yet failed to attend for the required subsequent colonoscopy test at the designated screening centre in Manchester. A total of 101 letters were sent to the GPs of such non-attenders; subsequently 12 (12%) patients did re-engage and attend for colonoscopy. Their diagnoses included high risk adenomas, lower risk polyps and other bowel pathology as well as no significant pathology. Given the high risk element of significant pathology findings, they remain a particular patient cohort that GPs should actively seek to re-engage with.
Recommendations

The ACE projects have encouraged more eligible people to come forward for bowel cancer screening, and also present feasible, acceptable, cost-effective strategies to improve uptake that should be aligned to future FIT delivery models. These key recommendations focus on making it more desirable and easier for the screening community to promote informed choice.

For policy makers & key opinion leaders:

1. **The BCSP should accelerate the continuation of GP endorsed screening invitations**
   
   ACE contributes to the evidence that when a subject is made aware their GP supports bowel screening, participation is increased.

   The BCSP have approved amendments to screening invitation letters, to now include positive statements of GP endorsement. ACE recommends that all GP Practices should consent to the changes (permission to include the GP Practice detail has to be renewed annually) and that implementation of these new arrangements should be accelerated by the BCSP hubs.

2. **Use of e-mail to request a replacement test kit**
   
   Providing a facility for GPs and associated healthcare workers to order a replacement self-test kit on behalf of patients and using an email communication, essentially transmitted securely via an nhs.net connection to do so, can reduce some of the barriers to improving participation.

   ACE recommends a standardised approach across the BCSP when replacement kits are required. Protocols have been developed by the different BCSP hubs and these examples should be considered by the BCSP for standardisation and national implementation.

   ACE also recommends exploring automated request arrangements direct from GP clinical systems.

3. **More timely bowel screening data & intelligence**
   
   The provision of timely bowel screening uptake and coverage data, at individual GP practice and CCG level, should be routinely available to commissioners, managers and practices. This will enable closer monitoring and evaluation of interventions and the impact of different populations groups (by age, gender and ethnicity).

   For commissioners of local services:

4. **Specifications should prioritise reducing inequalities in screening access**
   
   ACE recommends the BCSP should address local health inequalities with targeted segments of the population, promoting the benefits of bowel screening within the context of informed choice. Collaborative effort is required with local authorities, CCGs and screening partners working to identify any barriers to accessing screening in their local area and to encourage more people from hard to reach groups to participate in screening. Tailored recruitment strategies will be needed to address the apparent barriers to uptake in these groups, targeting those least likely to participate.
5. **Different communication methods to suit the needs of different population groups should be considered**

The use of evidence based interventions, such as pre-screening notification lists and more personalised reminders to non-responders are encouraged. Where appropriate, these should be adapted to suit the needs of specific population groups.

ACE recommends the CRUK developed [GP letter template](#) that can be customised by practices to send to their patients as an additional reminder, when required. Combining this with an [enhanced patient information leaflet](#) can further increase uptake. An enhanced information leaflet should include information on how to use the kit and explicitly address perceived barriers.

**For GP practices:**

6. **The role of GP Practices in supporting screening participation should be promoted**

GP s and their practice staff have a key role to play in providing details about the BCSP and, in particular, discussing the pros and cons of screening with patients so they are able to make an informed choice to participate. Having helpful healthcare messages displayed in the practice to alert people to bowel screening or discussed opportunistically during a routine visit are encouraged. These messages should highlight: the benefits of screening, that the risk of developing bowel cancer increases with age, and that if bowel cancer is diagnosed earlier, treatment can be more successful, and longer term survival improved.

The Royal College of General Practitioners has developed a [30-minute online bowel cancer screening course](#) which highlights the importance of the GP’s role in the BCSP.

7. **Encouraging positive dialogue and communication**

ACE recommends having conversations with patients as key to resolving some of the barriers and influencing positive participation. Directly targeting segments of a practice population dominated by ethnic minority groupings and providing access to interpreters to overcome language and translation issues, are considered really important. The conversations should provide a reason to talk about screening positively.

8. **Re-engaging patients for colonoscopy following positive screening test**

Patients who test positive at gFOBt are normally offered a colonoscopy investigation at their local screening centre. There is variation in numbers of patients who fail to attend their colonoscopy appointment (the average rate is 20%). Recognising that for some of these patients, colonoscopy may not be the next appropriate investigation, ACE recommends, given the high risk element of significant pathology findings in this patient cohort, they are a particular group that GPs should actively seek to re-engage with.
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Introduction

The UK national cancer screening programmes are aimed at large groups of the population, most of whom have no symptoms of cancer. Essentially they are established to look for early signs that cancer is potentially developing but as yet undiagnosed. Regular cancer screening has the potential to reduce incidence of the disease and improve outcomes for those patients whose cancers are diagnosed and can be treated.

In order to achieve the desired public health impact amongst targeted populations, cancer screening programmes require high levels of participation and it is accepted that decisions to participate in cancer screening should be free from undue pressure and coercion and be well-informed.

The NHS Bowel Cancer Screening Programme (BCSP) has been operational since 2006, with regular bowel cancer screening participation considered increasingly important in preventing and detecting cancer. It offers a significant opportunity to diagnose more cancers earlier and improve outcomes for patients by treating cancers and other conditions. Screening has been shown to reduce the risk of dying from bowel cancer by 16% in the population invited.¹

There are two aspects to the national bowel cancer screening programme:

- The original guaiac Faecal Occult Blood test (gFOBt). For men and women aged 60 to 74 in England, with invitation to self-test every two years
- The more recent complementary bowel scope screening programme for all 55-year olds. A one-off flexible sigmoidoscopy test currently being rolled out.

In 2015/16, overall percentage uptake for gFOBt bowel screening (people adequately screened within 6 months of invitation) was 56.4%, with significant variation in compliance across all CCG areas. This geographical variation and the range of screening uptake achieved across different population groups presents a real opportunity to improve participation.

In January 2016, the UK National Screening Committee (NSC) recommended the use of the Faecal Immunochemical Test (FIT) as the primary test for bowel cancer screening in place of the gFOBt, which was formally announced by the government in June 2016. A national implementation group is leading the design, procurement and co-ordination of the new FIT, to be operational in England from April 2018. NHS England (NHS E) suggest almost a third of a million more people are expected to complete the FIT in 2018/19 (compared to gFOBt) and a fifth more cancers will be diagnosed earlier.²

The BCSP largely operates in parallel to primary care service provision. More should be done across the system to integrate primary care involvement with the national screening process, considering the evidence that ‘more people who are sent bowel screening kits through the post, are likely to complete the test if there is endorsement from their GP on all supporting correspondence.’³

Achieving World-Class Cancer Outcomes (A Strategy for England 2015-2020)² suggests this implementation of ‘feasible, acceptable and cost-effective strategies to improve screening uptake, particularly amongst non-responders, are fundamentally important for the success of screening programmes.’

Recent evidence published by Cancer Research UK (CRUK) and the National Cancer Registration and Analysis Service (NCRAS), suggest bowel cancer is more likely to be diagnosed at the earliest stage if it is picked up by screening; this provides a significant incentive to improve screening compliance.⁴,⁵
Purpose

The ACE Programme is organised into a series of thematic clusters; this report summarises the progress of the bowel screening cluster, incorporating local NHS projects intent on improving gFOBt screening participation, focusing in particular on effects in underserved populations. It also includes details from two projects who have been considering how reasonable adjustments to the bowel screening pathway can improve access for patients with a learning disability.

The main output for this cluster is its contribution to the evidence base of what works best in terms of ‘effective intervention’ to improve bowel screening gFOBt uptake. The ACE projects have added to the growing evidence that GP endorsement and engagement in the bowel screening process can improve participation rates.

The ACE projects and their stakeholders are challenged by the recommendation in the Cancer Strategy for England 2015-2020\(^2\) (Recommendation 10), that NHS England should incentivise GPs to take responsibility for driving increased uptake of bowel screening in the populations, with an ambition of achieving 75% uptake in all CCGs by 2020.

The evidence detailed in this report also contributes to the understanding of which interventions support the earlier diagnosis of cancer that in turn could be transformative in terms of improving survival rates, reducing mortality and improving quality of life.

The report contents will be of particular interest to commissioners of cancer services implementing Best Possible Value (BPV) pathways,\(^6\) designed to incentivise high quality and cost-effective care, and to public health commissioners and decision-makers on modelling the effects of interventions and estimating costs against the core value of their benefits and improved outcomes for patients.\(^7\)

Most of the interventions promoted by the ACE projects included developing more direct personalised communication from primary care, particularly to first-time non-responders. This was done either via additional reminder letters (with specific GP endorsement included), telephone calls from administrative GP practice staff, or opportunistic reminders during other GP practice consultations. All of the projects explored how to make the offer of screening invitation both personal and recognisable and not too ‘low key’.

The range of objectives taken from across the scope of the ACE projects were to:

- Increase healthcare professional awareness of the BCSP, promoting the benefits of improving participation of eligible people, working on the premise of Making Every Contact Count,\(^8\) using every opportunity to improve health and well-being.
- Increase community awareness of the BCSP, especially in socioeconomically deprived communities. Done through training GP practice cancer champions and volunteers and community groups to promote the benefits, risks and age eligibility of regular screening.
- Develop key partnership working across the primary care, local authority and voluntary sector.
- Improve integration between the BCSP and primary care health professionals - acknowledging the BCSP hubs in England have the knowledge and information on the up to date gFOBt kit distribution and return, whilst GP practice staff have the more personal contact and engagement with their registered patients. It is acknowledged that primary care can advise on the medical history of each subject, advise on reasonable adjustment to the screening invitation, and recommend exclusion of unsuitable patients from invitation as appropriate.
- Reduce beliefs that the test is difficult to complete.
- Where possible, provide evidence of cost effectiveness and impact of the interventions on local services
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Context

A number of factors help to set the context for including ‘improving bowel screening uptake’ as one of the key concepts of the ACE Programme, particularly given the significant geographical variation and range of screening uptake rates across the different population groups:

Rising incidence. Bowel cancer is the fourth most common cancer type registered in the UK, with 41,300 new cases diagnosed in the UK in 2014; that’s 110 new patients diagnosed every day. Since the late-1970s, incidence rates have increased by more than a tenth (14%) in Great Britain and it is more common in males living in the most deprived areas. Regular bowel cancer screening contributes to reducing incidence and improving outcomes for those patients who can be diagnosed and treated at an earlier stage.

Mortality and late stage disease. Around 15,900 people died of bowel cancer in 2014 in the UK, that’s more than 44 people every day. Most bowel cancers are diagnosed at a late stage of disease, with evidence indicating that patients whose cancers are diagnosed at an earlier stage almost always have improved chances of survival following successful treatment. Regular bowel cancer screening has been shown to reduce the risk of dying from bowel cancer by 16% in the population invited and it is estimated that by 2025 around 2,400 lives could be saved every year through gFOBt testing.

Poor survival. Improving patient survival from a diagnosed cancer is a key challenge identified in Achieving World Class Cancer Outcomes: A Strategy for England 2015-2020 with survival estimates in the UK currently below those in many other European countries. The survival difference in the first 12 months after diagnosis has been partly attributed to later cancer stage at diagnosis. The National Cancer Registration and Analysis Service (NCRAS) in partnership with Cancer Research UK (CRUK) has recently published Routes to Diagnosis intelligence on cancers diagnosed via 8 different presentation pathways including bowel screening, urgent and routine GP referral, emergency etc., detailing for the first time how relative survival compares (in time-periods) across the different routes, and whether patients were diagnosed at an early or late stage. The figures confirm the long-standing suspicion that patients diagnosed with cancer following an emergency admission to hospital are much more likely to be diagnosed at a later stage, and that bowel cancers diagnosed following screening testing by the national BCSP have the highest rates of survival over the time period.

Earlier diagnosis. An earlier cancer diagnosis makes it more likely that patients will receive treatments such as surgery and radiotherapy which contribute to the majority of cases where cancer is treated successfully. The Cancer Strategy for England 2015-2020 suggests diagnosing more cancers earlier could be transformative in terms of improving survival, reducing mortality and improving quality of life, and that when bowel cancer is diagnosed at the earliest stage, more than 9 out of 10 people survive at least 10 years. Similarly the Routes to Diagnosis intelligence suggests that of cases picked up by bowel screening (where the stage at diagnosis was known), more than one third (37%) were caught at the earliest stage (stage I) while fewer than one in ten (8%) were advanced (stage IV).

This compares to four in ten (40%) of bowel cancers diagnosed as an emergency being stage IV for those cases with known stage. The figures also show that more than a fifth (22%) of bowel cancers were stage IV by the time people go to the doctor and are then diagnosed.
Reduce inequalities. Promoting equality and addressing health inequalities are at the heart of NHS England’s values. The UK national cancer screening programmes are commissioned to a common framework underpinned by a set of service specifications published by NHS England, that mandate screening is delivered in a way which addresses local health inequalities, tailoring and targeting interventions when necessary.\textsuperscript{12} There is a growing need to understand the causes of socio-economic gradients in bowel cancer screening participation and address barriers that increase disparities in bowel cancer survival. Evidence suggests there is a strong socio-economic gradient in gFOBt uptake, with studies reporting screening rates are lower in areas of deprivation and in certain ethnic groups. The feedback is that the gFOBt is impractical, unhygienic, and unacceptable as well as having social and cultural taboos for many population groups.\textsuperscript{13-15}

Barriers to participation. Previous studies of non-responders reveal few people are really set against screening\textsuperscript{16} and following further discussion or interviews with non-responders it often results in a willingness to do the self-test.\textsuperscript{17} Those that are opposed can’t face doing the gFOBt or can’t face a cancer diagnosis (at least at this point in time). ‘Unpleasantness,’ ‘disgusting test’ and ‘too invasive,’ are some of the barriers for many considering completing the gFOBt.\textsuperscript{18} Many people have just not got around to completing the test; some feel they don’t need the test and have no concerning symptoms – often based on a misunderstanding. Others have no recollection of receiving the screening invitation and self-test kit and many never read the instruction information or invitation.\textsuperscript{19, 20}

Figure 1: Barriers to participation in bowel screening, PHE, accessed March 2017
Research evidence suggests a useful theoretical framework for understanding screening non-participation must begin at the ‘pre-decision stage’. Applying Weinstein’s Precaution Adoption Process Model (1998)\(^{21}\), before subjects receive their screening invitation they are in an unaware, unengaged or undecided stage – and organising community education and awareness programmes, as well as providing appropriate information from a trusted source, will all help to convince subjects to actively participate in the screening programme.

**Figure 2: The Precaution Adoption Process Model, 2002**

Interventions. There is a wide range of potential interventions to improve access and increase participation in cancer screening services. A recent review of the literature around interventions to improve uptake found that those most consistently improving screening participation were: pre-screening reminders, general practice endorsement, personalised reminders for non-participants and offering a more acceptable screening test.\(^{22}\)

CRUK have run intervention pilots in London (2014), Wales (2015) and England (2015-16),\(^{23}\) all aiming to explore ways of improving participation in eligible populations. In London, a pack (containing gloves & poo catchers) and an endorsement flyer achieved a greater impact when supported with advertising, increasing uptake by **6.1 percentage points** among 60-69 year olds, and **7.3 percentage points** among 70-74 year olds.

Given ‘unpleasantness’ is regarded as a significant barrier for many considering completing the gFOBt,\(^{18}\) enhancement packs containing latex-free gloves were developed by CRUK to help people collect their stool sample more hygienically. In Wales, a personalised CRUK endorsement letter was found to be most effective among First Timers (**+9.1 percentage points**), while a letter and pack (containing latex-free gloves) was most impactful among more deprived ‘Non-Responders’ (**+3.2 percentage points**).\(^{24}\)
**Bowel Scope.** An additional bowel scope (flexible sigmoidoscopy) investigation is gradually being introduced in England as part of the national BCSP, offered to all men and women aged 55. Bowel scope screening helps to prevent cancer by finding and immediately removing adenomas and polyps, which reduces the chances of these developing into bowel cancer in the future. Recent evidence has shown people having bowel scope screening (at 55 years) have a 35% lower risk of developing bowel cancer and a 40% lower risk of dying from the disease. To put this into context that translates to approximately two fewer cases of bowel cancer and one death prevented from the disease for every 220 people screened.\(^2\) Bowel scope roll-out has been slower than anticipated and needs to continue at pace. This will require current workforce deficits to be addressed.\(^2\)

**Introduction of the Faecal Immunochemical Test (FIT).** The introduction of the improved FIT in screening patients for bowel cancer will begin in April 2018 as the primary test of the national BCSP replacing the gFOBt in England. Positive findings from previous FIT pilots have indicated improved uptake of screening in both sexes and across all quintiles of the index of multiple deprivation, with notable improvements in the most deprived quintile.\(^6\) FIT has many advantages over the gFOBt in that it is easier to use and can be measured more reliably by machine than by the human eye; it is sensitive to a much smaller amount of blood and can detect cancers more reliably and at an earlier stage; it has increased sensitivity that enables the detection of more pre-cancer lesions and needs just one tiny faecal sample from a single bowel motion compared to 2 samples from 3 different motions for gFOBt.

Introduction of the FIT is therefore likely to increase demand on endoscopy services due to the improved uptake and also because FIT is a more sensitive test. As FIT is quantitative, the appropriate threshold for a positive test needs to be set. The FIT development team are considering the potential for risk stratification or whether thresholds should start high and reduce over time, based on already stretched endoscopy service provision.

**Cost-effective commissioning of colorectal cancer care.** PHE have produced an assessment of the cost effectiveness of improving early diagnosis in recent guidance, *Cost-effective commissioning of colorectal cancer care*.\(^7\) The assessment includes an accompanying return on investment tool with CCG-specific data, to estimate the cost and benefit (both financial and quality of care) in making changes to the colorectal cancer pathway by incentivising early detection. The tool uses the CCGs’ own data to estimate the long term benefits of diagnosing people earlier, providing information that helps commissioners to make a case for appropriate investment to improve early detection. The assessment also examines misaligned incentives that an intervention might increase the number of colonoscopies resulting in relatively few early diagnoses, and suggests ways to improve current practices.
Summary of ACE projects

Table 1 summarises the projects, including the interventions, the organisation taking these initiatives and the areas in which they take place:

<table>
<thead>
<tr>
<th>ACE Ref.</th>
<th>Host Institution</th>
<th>Project Objective</th>
<th>Intervention &amp; Scope</th>
</tr>
</thead>
<tbody>
<tr>
<td>A2</td>
<td>Wandsworth CCG</td>
<td>To achieve higher bowel screening rates for patients in Wandsworth, to increase the earlier detection of colorectal cancer. Improvement is measured in screening uptake per practice from the agreed baseline of June 2014.</td>
<td>As part of a local enhanced service Wandsworth CCG commissioned each practice to directly contact previous non-responders of screening invitation by letter/phone.</td>
</tr>
<tr>
<td>A17</td>
<td>Nottingham City CCG</td>
<td>To improve the uptake of bowel cancer screening in Nottingham – the CCG set an ambitious target of 60% per GP Practice. Improvement is measured in screening uptake rates per practice from the agreed baseline and in the number of replacement kits requested that were adequately returned for testing at the screening hub.</td>
<td>The CCG commissioned the Clinical Assessment Service (CAS) to send a further reminder letter to non-responding screening invited patients. Reminder letters were sent on GP practice headed paper so that it appears to come direct from the practice itself.</td>
</tr>
<tr>
<td>A18</td>
<td>Luton CCG</td>
<td>To improve the uptake of bowel cancer screening across Luton, by working in collaboration with all GP practices, the local council, public health and cancer educators, to increase awareness of bowel cancer and the national screening programme. Each practice monitored patient completion of the replacement test kit - from electronic results received from the screening hub, with overall improvement measured in screening uptake per practice from the agreed baseline.</td>
<td>A local enhanced service involving direct contact from practices to previous non-responding patients. The practices were able to request replacement test kits on the patient behalf from the East Midlands screening hub via email. The focus was on improving uptake in minority populations with peer educators also raising awareness at local community events.</td>
</tr>
<tr>
<td>A20</td>
<td>Southern England Bowel Cancer Screening Programme Hub &amp; the Wessex Strategic Clinical Network</td>
<td>To reduce the inequality in uptake of bowel cancer screening across Wessex, by initially working with those areas and GP Practices with below average uptake. Improvement is measured in screening uptake per practice compared with other practices with similarly low uptake.</td>
<td>A GP endorsed reminder on practice letter-headed &amp; logo note-paper for subjects not returning a completed kit within three months.</td>
</tr>
<tr>
<td>ACE Ref.</td>
<td>Host Institution</td>
<td>Project Objective</td>
<td>Intervention &amp; Scope</td>
</tr>
<tr>
<td>----------</td>
<td>------------------</td>
<td>-------------------</td>
<td>----------------------</td>
</tr>
</tbody>
</table>
| A29      | Tower Hamlets CCG| To increase the uptake of bowel screening through targeted GP endorsement. Uptake rates compared between participating practices with low rates of contact and those with high rates. | • GP endorsed letters and telephone calls to those approaching their 60th birthday - due to have their first invitation of gFOBT screening.  
• GP endorsed letters and telephone calls to subjects who had not returned a gFOBT kit within four months.  
• Opportunistic endorsement of patients aged 60 to 74 to patients consulting GP’s for other reasons but with no bowel screening results in the last 2 years. |
<p>| A30      | Manchester Cancer| Primary care involvement in re-engaging patients with the National Bowel Cancer Screening Programme who previously tested positive on screening but failed to complete colonoscopy. Data was collected from individual practices on the number of patients who re-engaged and details of patient outcomes following eventual colonoscopy. | GPs were provided with information and key statistics explaining the rationale for undergoing screening and specific details of how the patient could re-engage with screening. The GP was asked to provide information about the methods used to re-engage the patient. |
| A34      | North, Central &amp; South Manchester CCGs | To increase the uptake of bowel screening through targeted practice endorsement and engagement. Individual data returns were gathered by each practice identifying numbers of patients contacted – with the hub providing aggregate data on the number of test kits returned. | The project provided targeted support for Manchester GPs to code non-responders to the national BCSP and then contact patients to encourage re-engagement. Non-clinical cancer champions were the main point of contact for patients, following training and support delivered by the Greater Manchester Bowel Screening Improvement Team. |
| A47      | North East and Cumbria Learning Disability Network and the Northern England Strategic Clinical Network for Cancer | To reduce the inequality for people with learning disabilities (PWLD) in accessing the screening offer and processes of the bowel screening programme; thereby to increase uptake of bowel screening in this population; and embed sustainable reasonably adjusted services. | The project developed a pathway that identified, flagged and offered support to PWLD prior to point of invite to gFOBT screening enabling individually tailored work to support individuals making a choice about participation and being supported through the screening process. |</p>
<table>
<thead>
<tr>
<th>ACE Ref.</th>
<th>Host Institution</th>
<th>Project Objective</th>
<th>Intervention &amp; Scope</th>
</tr>
</thead>
<tbody>
<tr>
<td>A49</td>
<td>Cumbria CCG in partnership with Cumbria County Council, Cumbria Partnership Foundation Trust &amp; Cumbria Care Alliance</td>
<td>To improve participation in cancer screening programmes, particularly in more vulnerable population groups, by increasing and adapting communications to improve response to screening invitations.</td>
<td>The project aimed to follow up non-responders with enhanced communications from general practices by: (1) using postal, telephone and text message communication to improve understanding and awareness of screening by for example hearing impaired people and those with learning disabilities; and (2) updating coding within practices to indicate need for additional support by people with disabilities or special needs to enable them to access screening.</td>
</tr>
<tr>
<td>A63</td>
<td>Merton CCG</td>
<td>To improve bowel cancer screening uptake and raise awareness to the wider population of Merton, which had uptake rates of 46.8% in 2015. Improvement is measured in screening uptake rates per practice from the agreed baseline and in the number of replacement kits requested that were adequately returned for testing at the screening hub.</td>
<td>A GP endorsement campaign led by the CCG across 24 practices – targeted pre-invitation lists generated by the practices and follow up of non-responders, initially by phone at 2 different times of the day, followed by a GP endorsed letter. Social deprivation is a factor in uptake.</td>
</tr>
<tr>
<td>A84</td>
<td>Blackburn with Darwen &amp; East Lancashire CCGs</td>
<td>As part of a Local Improvement Scheme, Practices are required to implement changes to increase the uptake of cancer screening in their patients with learning disabilities. Practices will complete an audit cycle to baseline learning disability patient screening uptake figures and reasons for not having participated in each screening programme.</td>
<td>Following a baseline audit recommendations for what would help improve uptake and what factors may hinder participation in screening will be collated and circulated. Each practice will be targeted to plan and implement changes that have the potential to increase uptake and repeat the audit cycle of review.</td>
</tr>
</tbody>
</table>
| A89     | Calderdale and Greater Huddersfield CCGs | To raise awareness and improve bowel cancer screening uptake to the wider populations of Calderdale and Kirklees. Improvement is measured in the improvement of screening uptake rates from the agreed baseline and in the number of replacement kits requested that were adequately returned for testing at the screening hub. | The project enabled targeted work with recognised hard to reach communities to:  

- Increase community awareness by raising the profile & benefits of regular bowel cancer screening  
- Improve the uptake of bowel cancer screening rates and provide a facility to obtain replacement test-kits where necessary |
**A2 - Wandsworth CCG**

As part of a local enhanced service, Wandsworth Clinical Commissioning Group (CCG) commissioned GP practices with a financial incentive to directly contact non-responders of bowel screening invitation by letter or telephone. Each practice compiled their own contact list from an initial search of non-responders in the previous 12 months, followed by monthly searches thereafter. The project activity took place in 2014 and 2015. Coverage figures in Wandsworth in 2013, 2014, 2015 and 2016 were 47%, 49% 50% and 51% respectively.

The project was not sustained beyond 2015 following the observation that uptake was not materially different between participating and non-participating practices.

**A17 – Nottingham CCG**

**Background**

The aim of this project was to improve bowel cancer screening participation in Nottingham. The CCG set an ambitious target that each GP Practice should achieve the national standard of 60% compliant performance (of subjects returning completed screening kits). Overall improvement is measured in screening uptake rates per GP practice from an agreed baseline and in the number of replacement kits requested that were adequately returned for testing at the screening hub.

**Methodology**

This project entailed sending a GP endorsed postal reminder letter to those subjects who had not returned their gFOBt kit following invitation by the BCSP. Nottingham CCG commissioned the Clinical Assessment Service (CAS) to send a standardised reminder letter on GP practice headed paper so that it appears to come direct from the GP practice. Following BCSP Committee approval the CAS began sending the reminder letters in April 2016 to subjects who had not returned their self-test kit within 3 months of invitation. The CAS also worked retrospectively and sent the reminder letter to subjects who had not returned kits following invitation since July 2015.

Data were analysed by logistic regression, with ‘being adequately screened’ as the end point adjusted for factors such as: whether the subject was contacted, age, sex, Index of Multiple Deprivation (IMD), whether this was a prevalent or incident episode, prior uptake (before the intervention started) for the subject’s general practice and month of invitation.

**Results**

Data were available for 5,769 subjects. Table 2 shows the number of subjects who were sent a postal reminder with a breakdown by month of when the invitation was initially sent. The rate of contact from July 2015 through to April 2016 was reasonably constant at just under two-thirds (63.8%).

Table 3 shows the number of subjects who were sent a postal reminder and those subjects who were subsequently adequately screened.

Data were analysed by logistic regression, with being ‘adequately screened’ as the endpoint. The percentage of people adequately screened was inevitably higher for those subjects whose first invitation was sent by the BCSP from December 2015 onwards.
Table 2: Numbers of non-responding subjects and those contacted

<table>
<thead>
<tr>
<th>BCSP invitation first sent</th>
<th>Number</th>
<th>Contacted</th>
<th>Contact rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>July 2015</td>
<td>6</td>
<td>6</td>
<td>100.0%</td>
</tr>
<tr>
<td>August 2015</td>
<td>558</td>
<td>353</td>
<td>63.3%</td>
</tr>
<tr>
<td>Sep 2015</td>
<td>701</td>
<td>446</td>
<td>63.6%</td>
</tr>
<tr>
<td>October 2015</td>
<td>602</td>
<td>382</td>
<td>63.5%</td>
</tr>
<tr>
<td>November 2015</td>
<td>627</td>
<td>405</td>
<td>64.6%</td>
</tr>
<tr>
<td>December 2015</td>
<td>772</td>
<td>501</td>
<td>64.9%</td>
</tr>
<tr>
<td>January 2016</td>
<td>748</td>
<td>494</td>
<td>66.0%</td>
</tr>
<tr>
<td>February 2016</td>
<td>594</td>
<td>392</td>
<td>66.0%</td>
</tr>
<tr>
<td>March 2016</td>
<td>620</td>
<td>401</td>
<td>64.7%</td>
</tr>
<tr>
<td>April 2016</td>
<td>541</td>
<td>298</td>
<td>55.1%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>5,769</td>
<td>3,678</td>
<td>63.8%</td>
</tr>
</tbody>
</table>

Table 3: Number of non-responding subjects (successfully re-contacted or not) and percentage adequately screened

<table>
<thead>
<tr>
<th>BCSP invite first sent</th>
<th>Number</th>
<th>Adequately screened rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>July 2015</td>
<td>6</td>
<td>0.0%</td>
</tr>
<tr>
<td>August 2015</td>
<td>558</td>
<td>1.3%</td>
</tr>
<tr>
<td>Sept 2015</td>
<td>701</td>
<td>2.1%</td>
</tr>
<tr>
<td>October 2015</td>
<td>602</td>
<td>1.8%</td>
</tr>
<tr>
<td>November 2015</td>
<td>627</td>
<td>1.0%</td>
</tr>
<tr>
<td>December 2015</td>
<td>772</td>
<td>4.1%</td>
</tr>
<tr>
<td>January 2016</td>
<td>748</td>
<td>4.5%</td>
</tr>
<tr>
<td>February 2016</td>
<td>594</td>
<td>3.5%</td>
</tr>
<tr>
<td>March 2016</td>
<td>620</td>
<td>3.5%</td>
</tr>
<tr>
<td>April 2016</td>
<td>541</td>
<td>0.6%</td>
</tr>
</tbody>
</table>
Table 4 shows screen rates for those who were and were not contacted respectively (the group of non-contacted includes those people who were ineligible for the intervention due to exclusion by their GP, or if the individual Practice had not yet consented to be part of the CAS recall project).

<table>
<thead>
<tr>
<th>Month of invitation</th>
<th>Contacted</th>
<th>Not contacted</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of subjects</td>
<td>Screen rate</td>
</tr>
<tr>
<td>Jul 2015</td>
<td>6</td>
<td>0.0%</td>
</tr>
<tr>
<td>Aug 2015</td>
<td>353</td>
<td>0.8%</td>
</tr>
<tr>
<td>Sep 2015</td>
<td>446</td>
<td>3.1%</td>
</tr>
<tr>
<td>Oct 2015</td>
<td>382</td>
<td>2.6%</td>
</tr>
<tr>
<td>Nov 2015</td>
<td>405</td>
<td>1.2%</td>
</tr>
<tr>
<td>Dec 2015</td>
<td>501</td>
<td>4.8%</td>
</tr>
<tr>
<td>Jan 2016</td>
<td>494</td>
<td>5.7%</td>
</tr>
<tr>
<td>Feb 2016</td>
<td>392</td>
<td>4.8%</td>
</tr>
<tr>
<td>Mar 2016</td>
<td>401</td>
<td>4.7%</td>
</tr>
<tr>
<td>Apr 2016</td>
<td>298</td>
<td>1.0%</td>
</tr>
<tr>
<td>All</td>
<td>3,678</td>
<td>3.4%</td>
</tr>
</tbody>
</table>

Ultimately, 151 (2.6%) of the 5,769 subjects were eventually screened (125 contacted and 26 not contacted).

In the multiple logistic regression analysis, for the probability of being adequately screened, significant results were observed for:
- Whether contacted – higher screen rates in those contacted
- Age - lower screen rates in older subjects
- Type of episode - higher screen rates for incident episodes
- Prior practice uptake - higher screen rates for higher prior uptake

Analysis excluded those people who had initially been invited in April 2016, since at the time the data were collated the subject had not had time to respond. Being contacted was a critical factor, being associated with a highly significant increase in odds of being screened, after adjusting for the other variables. The odds ratio was 2.66 (95% confidence interval 1.73-4.10), suggesting an increase in the odds of being adequately screened by a factor of 2.66. As noted above, screen rates were higher from December 2015 onwards. When we analysed the periods July-November 2015 and December 2015-March 2016 separately, the effect of contact remained highly significant in both periods.

Summary
We are continuing to receive updated data which are undergoing analysis. Results are even stronger than those reported above, with the most recent data showing 9,167 letters sent (in respect of invitations originally sent between July 2015 and February 2017, and amounting to almost three-quarters of non-responders). Of those contacted, 519 (5.7%) have subsequently been adequately screened, compared to 1.9% of those not contacted, which represents one additional participant per 27 persons contacted.

The process has directly increased the CCG’s overall uptake by 2.4% from a baseline uptake rate (July 2016) of 51.2%. A copy of the most recent local analysis is available [here](#).
A18 – Luton CCG

This project piloted an intervention in which general practice staff were trained and commissioned to telephone subjects who have not returned the gFOBt kit within 13 weeks. The practice explained the benefits of bowel screening, offered to send further information and also order a replacement kit when necessary from the bowel screening hub (sent direct to the subject).

Of the 30 practices invited to participate in the project, 29 agreed. Of these, 14 practices have reported on activity. Of 927 subjects contacted, 510 (55%) agreed to complete a kit, and of the 510 agreeing, 73 (14%) have returned a completed kit to date. This amounts to 8% of those contacted.

In the absence of the intervention, few if any of this population would have been expected to return a kit at all.

A20 – Bowel Cancer Screening Southern Programme Hub & Wessex SCN

Background

This project known as PEARL (Practice-Endorsed Additional Reminder Letter) selected GP practices in the Wessex area that had prevalent bowel screening uptake rates below the national average of 55%.

Practices that agreed to participate supplied a letterhead and electronic GP signature to the Bowel Cancer Screening Southern Programme Hub.

A bespoke IT program interrogated the Bowel Cancer Screening Programme (BCSP) database to identify subjects registered within the participating practices who failed to return a gFOBt test kit within 30 days. A list of non-responding subjects was sent by secure e-mail to the practice and the GPs were asked to identify people on the list who should not be sent a further reminder letter.

The checked list of subjects was returned to the Southern Programme Hub where further checks were made to confirm that the subjects remained non-respondent and that there had been no further change to their screening status or GP registration. Subjects not excluded by their GP who remained eligible for screening were sent a second reminder letter carrying their GP’s letterhead and signature. Reminders were sent on average 99 days after initial invitation. This process was repeated monthly.

The project had data for the same period on 25 practices who agreed to participate (referred to as PEARL-registered practices below) and 1,575 other practices in the Southern Hub catchment which also had prevalent uptake rates of less than 55%.

Statistical Methodology

Both the 25 PEARL-registered practices and the 1,575 comparison practices were specified to have prevalent screen participation rates of less than 55% prior to the intervention. However, even within this range, the comparison practices had substantially higher prior participation rates than the PEARL-registered practices. Using logistic regression, in subjects within the comparison practices only, we estimated the effects of age, sex, prior prevalent participation, IMD quintile, episode type (prevalent or incident) and episode sequence (first, second, third, etc., offer of screening) on the probability of participation. These were then applied to the subjects in the PEARL-registered practices to calculate the expected proportion of participants in these practices. The effect of the intervention was then estimated as the observed number of participants in the PEARL-registered practices divided by the expected number. We calculated confidence intervals on the ratio assuming a binomial distribution of numbers participating and taking into account the uncertainty in the expected numbers.
For subjects in the non-PEARL-registered practices, the index date was defined as the date on which a PEARL reminder would have been due if these had been PEARL subjects. Our primary analysis was to compare the observed participation rate of subjects in the PEARL-registered practices with that expected from the comparison practices, for overall participation and for participation in those not returning an adequate kit by the index date, un-stratified by demographic or screening data. Secondary analysis consisted of the same comparisons in subgroups of age, sex, screening episode type (prevalent or incident) and IMD quintile.

As a check on our method, we also selected 25 of the non-PEARL practices, matched to the PEARL-registered practices by previous prevalent participation rates and number of invitees. We then repeated our primary analysis, directly comparing participation rates in PEARL-registered practices with those in the matched non-PEARL practices. Analysis for this comparison was performed using inverse variance weighted average estimation conditioning on matched set \(^27\) (Cummings, 2009). All analyses were performed in Stata version 13.1 \(^28\) (StataCorp, 2013).

**Results**

1. **Characteristics across all invitees - in PEARL practices, in practices matched to PEARL practices, and all non-PEARL practices:**

There were 12,878 invitees in the PEARL-registered practices and 1,248,689 in the non-PEARL registered practices. Table 5 shows the characteristics of subjects in the PEARL registered practices, in those practices matched to the PEARL practices, and in all the non-PEARL (comparative) practices.

**Table 5: Characteristics of invitees in PEARL and comparison practices**

<table>
<thead>
<tr>
<th>Factor</th>
<th>Category</th>
<th>PEARL practices</th>
<th>Practices matched to PEARL practices</th>
<th>All non-PEARL practices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>≤65</td>
<td>6,096 (47)</td>
<td>6,210 (52)</td>
<td>576,764 (46)</td>
</tr>
<tr>
<td></td>
<td>66+</td>
<td>6,782 (53)</td>
<td>5,648 (48)</td>
<td>671,925 (54)</td>
</tr>
<tr>
<td>Sex</td>
<td>Male</td>
<td>6,642 (52)</td>
<td>5,934 (50)</td>
<td>607,256 (49)</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>6,236 (48)</td>
<td>5,924 (50)</td>
<td>641,433 (51)</td>
</tr>
<tr>
<td>Screen type</td>
<td>Prevalent</td>
<td>6,373 (49)</td>
<td>6,295 (53)</td>
<td>524,744 (42)</td>
</tr>
<tr>
<td></td>
<td>Incident</td>
<td>6,505 (51)</td>
<td>5,563 (47)</td>
<td>723,945 (58)</td>
</tr>
<tr>
<td>IMD quintile</td>
<td>1 (most deprived)</td>
<td>3,759 (29)</td>
<td>2,724 (23)</td>
<td>73,797 (6)</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>3,033 (24)</td>
<td>3,267 (28)</td>
<td>182,497 (15)</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>2,836 (22)</td>
<td>2,251 (19)</td>
<td>291,373 (24)</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>2,190 (17)</td>
<td>1,218 (10)</td>
<td>310,743 (25)</td>
</tr>
<tr>
<td></td>
<td>5 (least deprived)</td>
<td>996 (8)</td>
<td>2,322 (20)</td>
<td>380,078 (31)</td>
</tr>
<tr>
<td></td>
<td>Not known</td>
<td>64</td>
<td>66</td>
<td>10,201</td>
</tr>
</tbody>
</table>

There were substantial differences between the invitees in the PEARL-registered practices and those in the non-PEARL registered practices. In particular, the former were much more likely to be in deprived IMD categories. This is reflected in the fact that average prior prevalent participation in the PEARL-registered practices was 36%, substantially lower than that observed in the non-PEARL practices (47%). This necessitated the approach described above, deriving results standardised for age, sex, IMD quintile, episode type, episode sequence and prior prevalent participation. The differences between the PEARL practices and matched practices are much attenuated, and the average prior prevalent participation in the matched practices was 36%, as in the PEARL-registered practices.

*Interventions to increase bowel screening uptake – Final Report v1.0*
2. Numbers (%) adequately screened on or before the index date - in PEARL practices, in practices matched to PEARL practices, and all non-PEARL practices:

Table 6 shows the numbers returning a completed kit by the index date in all of the same groups.

**Table 6: Numbers (%) adequately screened on or before the index date**

<table>
<thead>
<tr>
<th>Factor</th>
<th>Category</th>
<th>PEARL practices</th>
<th>Practices matched to PEARL practices</th>
<th>All non-PEARL practices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>≤65</td>
<td>2,741 (45)</td>
<td>2,661 (43)</td>
<td>308,777 (54)</td>
</tr>
<tr>
<td></td>
<td>66+</td>
<td>3,662 (54)</td>
<td>2,891 (51)</td>
<td>415,329 (62)</td>
</tr>
<tr>
<td>Sex</td>
<td>Male</td>
<td>3,070 (46)</td>
<td>2,606 (44)</td>
<td>332,011 (55)</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>3,333 (53)</td>
<td>2,946 (50)</td>
<td>392,095 (61)</td>
</tr>
<tr>
<td>Screen type</td>
<td>Prevalent</td>
<td>1,279 (20)</td>
<td>1,189 (19)</td>
<td>129,433 (25)</td>
</tr>
<tr>
<td></td>
<td>Incident</td>
<td>5,124 (79)</td>
<td>4,363 (78)</td>
<td>594,673 (82)</td>
</tr>
<tr>
<td>IMD quintile</td>
<td>1 (most deprived)</td>
<td>1,539 (41)</td>
<td>1,029 (38)</td>
<td>32,010 (43)</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>1,391 (46)</td>
<td>1,436 (44)</td>
<td>92,912 (51)</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>1,515 (53)</td>
<td>1,035 (46)</td>
<td>165,219 (57)</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>1,310 (60)</td>
<td>662 (54)</td>
<td>187,682 (60)</td>
</tr>
<tr>
<td></td>
<td>5 (least deprived)</td>
<td>610 (61)</td>
<td>1,358 (58)</td>
<td>240,334 (63)</td>
</tr>
<tr>
<td></td>
<td>Not known</td>
<td>38 (59)</td>
<td>32 (48)</td>
<td>5,949 (60)</td>
</tr>
<tr>
<td>All</td>
<td>-</td>
<td>6,403 (50)</td>
<td>5,552 (47)</td>
<td>724,106 (58)</td>
</tr>
</tbody>
</table>

3. Levels of participation - in PEARL practices vs that expected from the non-PEARL practices:

Table 7 shows the basic results with respect to participation. There was a highly significant (p<0.001) difference between the participation rates in the PEARL practices and that expected from the non-PEARL, with 6,914 (54%) participation vs 6,543 (51%) expected. In those who qualified for a reminder, i.e. those who had not returned a completed kit by the index date, there was also a highly significant difference (p<0.001) with 362 (7%) participation in the PEARL practices compared with 167 (4%) expected.

**Table 7: Effect of intervention on participation**

<table>
<thead>
<tr>
<th>Population</th>
<th>Observed/expected participating subjects in PEARL practices</th>
<th>No. (%) participating</th>
<th>Observed/Expected (95% CI)</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>All invitees</td>
<td>Observed</td>
<td>6,914 (54)</td>
<td>1.06 (1.03-1.09)</td>
<td>p&lt;0.001</td>
</tr>
<tr>
<td></td>
<td>Expected</td>
<td>6,543 (51)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Those not returning before index date</td>
<td>Observed</td>
<td>362 (7)</td>
<td>2.17 (1.96-2.40)</td>
<td>p&lt;0.001</td>
</tr>
<tr>
<td></td>
<td>Expected</td>
<td>167 (3)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4. Levels of participation - in PEARL practices vs the 25 practices matched to PEARL:

The direct comparison of the 25 PEARL practices with the 25 matched practices showed slightly stronger yet essentially similar results (Table 8).

Table 8: Effect of intervention on participation from the direct comparison with matched practices

<table>
<thead>
<tr>
<th>Population</th>
<th>Study group</th>
<th>No. (%) participating</th>
<th>Relative Rate (95% CI)</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>All invitees</td>
<td>Comparison practices</td>
<td>5,861/11,858 (49)</td>
<td>1.00 (-)</td>
<td>P&lt;0.001</td>
</tr>
<tr>
<td>PEARL practices</td>
<td></td>
<td>6,914/12,878 (54)</td>
<td>1.08 (1.05-1.11)</td>
<td></td>
</tr>
<tr>
<td>Those not returning before index date</td>
<td>Comparison practices</td>
<td>144/5,417 (3)</td>
<td>1.00 (-)</td>
<td>p&lt;0.001</td>
</tr>
<tr>
<td>PEARL practices</td>
<td></td>
<td>362/5,536 (7)</td>
<td>2.18 (1.79-2.66)</td>
<td></td>
</tr>
</tbody>
</table>

5. Effect of intervention on participation in subgroups of PEARL practices by age, sex, screen type and IMD quintile:

Table 9 shows the subgroup results by age, sex, screen type (prevalent/incident) and socioeconomic status as measured by IMD (index of multiple deprivation) quintile, for all invitees, and for those not returning a kit before the index date. When all invitees were considered, significantly greater participation than expected was noted in the PEARL practices for all subgroups except for subjects aged 65 years or less, with absolute differences ranging from 2% to 5%. The difference in the effect of the PEARL intervention between age groups was statistically significant (p=0.001). No other significant heterogeneity of the PEARL intervention effect between subgroups was observed.

Table 9: Effect of intervention on participation in subgroups of PEARL practices by age, sex, screen type and IMD quintile

<table>
<thead>
<tr>
<th>Population</th>
<th>Demographic subgroup</th>
<th>Observed and expected numbers adequately screened, and total subjects</th>
<th>O/E (95% CI)</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>All subjects</td>
<td>Age ≤65 years</td>
<td>2,987 (49)</td>
<td>6,096</td>
<td>1.01 (0.97-1.05)</td>
</tr>
<tr>
<td></td>
<td>Age &gt;65 years</td>
<td>3,927 (58)</td>
<td>6,782</td>
<td>1.10 (1.06-1.14)</td>
</tr>
<tr>
<td></td>
<td>Males</td>
<td>3,347 (50)</td>
<td>6,642</td>
<td>1.05 (1.01-1.09)</td>
</tr>
<tr>
<td></td>
<td>Females</td>
<td>3,567 (57)</td>
<td>6,236</td>
<td>1.06 (1.02-1.10)</td>
</tr>
<tr>
<td></td>
<td>Prevalent screen</td>
<td>1,465 (23)</td>
<td>6,373</td>
<td>1.09 (1.03-1.15)</td>
</tr>
<tr>
<td></td>
<td>Incident screen</td>
<td>5,449 (84)</td>
<td>6,505</td>
<td>1.05 (1.02-1.08)</td>
</tr>
<tr>
<td></td>
<td>Most deprived quintile</td>
<td>1,657 (44)</td>
<td>3,759</td>
<td>1.05 (1.00-1.11)</td>
</tr>
<tr>
<td></td>
<td>Other four quintiles</td>
<td>5,218 (58)</td>
<td>9,055</td>
<td>1.06 (1.03-1.09)</td>
</tr>
<tr>
<td>Subjects not returning an adequate kit by the index date</td>
<td>Age ≤65 years</td>
<td>181 (6)</td>
<td>2,949</td>
<td>1.74 (1.49-2.03)</td>
</tr>
<tr>
<td></td>
<td>Age &gt;65 years</td>
<td>181 (7)</td>
<td>2,586</td>
<td>2.87 (2.42-3.41)</td>
</tr>
<tr>
<td></td>
<td>Males</td>
<td>195 (6)</td>
<td>3,058</td>
<td>2.05 (1.78-2.36)</td>
</tr>
<tr>
<td></td>
<td>Females</td>
<td>167 (7)</td>
<td>2,477</td>
<td>2.29 (1.96-2.67)</td>
</tr>
<tr>
<td></td>
<td>Prevalent screen</td>
<td>157 (4)</td>
<td>4,484</td>
<td>2.24 (1.90-2.63)</td>
</tr>
<tr>
<td></td>
<td>Incident screen</td>
<td>205 (20)</td>
<td>1,051</td>
<td>2.11 (1.83-2.43)</td>
</tr>
<tr>
<td></td>
<td>Most deprived quintile</td>
<td>87 (5)</td>
<td>1,919</td>
<td>1.93 (1.56-2.39)</td>
</tr>
<tr>
<td></td>
<td>Other four quintiles</td>
<td>274 (8)</td>
<td>3,593</td>
<td>2.25 (1.99-2.54)</td>
</tr>
</tbody>
</table>
The lower part of Table 4.5 shows the corresponding results for those with no return of an adequate kit before the index date. All subgroups show highly significant results, with an approximate doubling of the rate of participation typically from 2-4% to 4-8%. Again, there was significant heterogeneity of the effect by age, with a stronger effect of the PEARL intervention in those older than 65 years. No other significant heterogeneity of the intervention effect was observed between subgroups.

**Discussion**

Results indicate that the addition of a primary-care endorsed reminder at three months significantly increased participation in the BCSP, by 3% in absolute terms (54% vs 51%) in general practices with participation rates below the national average.

Participation rates in bowel cancer screening are lower than for breast or cervical screening, and there is considerable interest in closing this gap. There is already evidence that primary care endorsement improves participation in screening for a number of cancers (Duffy et al, 2016). Our results show that this second reminder at three months improves participation in gFOBt screening, a modality which has to cope with cultural and psychosocial barriers. There is also interest in removing inequalities in delivery of services such as this. The PEARL-registered practices were characterised by low socioeconomic status (Table 4.1), therefore the intervention has potential to improve delivery to traditionally underserved populations.

In our primary standardised analysis, the effect of the intervention in terms of raw numbers participating was to increase participation by 371 (6914-6543) when all invitees are considered. Restricting analysis to those who had not returned an adequate kit by the index date (the target population of the intervention), the effect was an increase of 195 (362-167). In the analysis against matched non-PEARL practices, the figures would be 512 and 196 respectively. One could therefore be confident that the effect of adopting these reminders as policy would lie within the range of these figures. In terms of the larger number of participants estimated to accrue when all invitees are considered, it is not out of the question that the intervention had some effect on participation among those not sent a PEARL reminder - perhaps due to having a different invitation date, but living with a subject who did receive a PEARL reminder.

During the intervention period, 3,149 additional primary care- endorsed reminders were sent in the PEARL-registered practices. The resulting absolute increase in participation was of the order of 200-500 in the target population. This is consistent with the observation that of those adequately screened, but not before the index date, in the PEARL-registered practices, all 403 actually received a reminder. For one extra participant, between 6 and 18 PEARL reminders had to be sent, depending on which estimate one considers.

In conclusion, it is clear that the intervention of a GP-endorsed reminder at approximately three months increased participation in bowel cancer screening by approximately 3%.

A copy of the full published paper is available [here](#).
A29 – London Borough of Tower Hamlets

Background
The remit of this project was to increase the uptake of bowel screening across the London Borough of Tower Hamlets through targeted GP endorsement. The work was part of a wider ‘Detecting Cancer Early in Primary Care’ enhanced GP service, to address inequalities in cancer outcomes for the population of one of the most deprived boroughs in England. The project was launched in May 2014 and incentivised GP practice engagement until March 2016.

Methodology
The project comprised several general-practice based interventions:

1. Letters and telephone calls direct from the practice promoting bowel screening for those subjects approaching their 60th birthday, with details of when the first invitation by the BCSP would be sent
2. Letters and telephone calls from the practice to those subjects who have not returned their gFOBt kit within four months of the BCSP invitation
3. Opportunistic discussion of bowel screening for those patients consulting their GP for other reasons, who have not been screened within the past two years

The project used relatively limited information held within GP registers – subject date of birth and screening result codes. The practice GP endorsed reminders to non-responders were sent approximately four months after the initial invitation by the BCSP.

Results
Although individual subject level data were not available, general practice-level data on all 36 participating practices were.
For each GP practice, the following data were available:
- Information on the percentage of eligible 60th birthday subjects contacted by letter and telephone (referred to as birthday letters and phone calls below)
- The percentage of eligible non-participants at four months who were contacted by letter and telephone (referred to as DNA letters and phone calls below)
- The proportion of eligible subjects receiving opportunistic discussion with the GP

Also available for each practice were total numbers eligible for screening in the year to March 2016, the numbers screened within the last 30 months, numbers invited in the 12 months period to March 2016 and the corresponding numbers screened within 6 months of invitation. These figures were for both the original age range for bowel cancer screening, 60-69, and the extended age range, 60-74. The results are presented for the extended age range. Results for the original range were very similar.

From the above, coverage was calculated as the percentage of eligible subjects screened within the last 30 months, and uptake as the percentage of invited subjects in the last year who participated within 6 months of invitation.

Table 10 shows in the 36 practices there was a total of 16,286 eligible subjects, of whom 6,629 had been screened in the last 30 months. 7,865 subjects were invited in the last 12 months, of whom 2,956 had been screened, an uptake of 38% (range 16-53% across the 36 practices).
Table 10: Screening uptake across all 36 practices at 30 & 12 months intervals

<table>
<thead>
<tr>
<th></th>
<th>N (overall number screened/eligible)</th>
<th>Uptake (%)</th>
<th>Range (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screened in the last 30 months</td>
<td>6,629 (16,286 eligible subjects)</td>
<td>41</td>
<td>22-53</td>
</tr>
<tr>
<td>Screened in the past 12 months</td>
<td>2,956 (7,865 invited subjects)</td>
<td>38</td>
<td>16-53</td>
</tr>
</tbody>
</table>

Table 11 shows the average percentage of subjects receiving the various GP based interventions and the range across all 36 practices:

Table 11: Averages of GP based interventions by type across 36 practices

<table>
<thead>
<tr>
<th></th>
<th>Average (%)</th>
<th>Range (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eligible subjects receiving birthday letters</td>
<td>34</td>
<td>0-85</td>
</tr>
<tr>
<td>Eligible subjects receiving birthday phone calls</td>
<td>31</td>
<td>0-76</td>
</tr>
<tr>
<td>DNA letters and phone calls</td>
<td>39</td>
<td>0-79</td>
</tr>
<tr>
<td>Eligible subjects receiving opportunistic discussion with GP</td>
<td>13</td>
<td>1-31</td>
</tr>
</tbody>
</table>

Since data on coverage or uptake by age were not available, a formal statistical analysis of the effect of 60th birthday letters and phone calls was not undertaken. As there was no control group, the effect of the intervention was evaluated by estimating the association between each of the five measures of percentage of eligible subjects contacted (birthday letters, birthday phone calls, DNA letters, DNA phone calls, opportunistic GP discussion) and the change in coverage from 2014 to 2016 (as measured in March of each year), using logistic regression.

Coverage improved significantly over the two years from March 2014 to March 2016, from 33% to 41% (p<0.001). There was a significant trend of higher differences with a higher percentage of eligible subjects receiving DNA telephone calls (p=0.004). The corresponding trend for DNA letters approached statistical significance (p=0.09).

Table 12 shows details of 2016 coverage for those above and below the median percentage of DNA letters achieved (43%) and for those above and below the median percentage of successful DNA phone calls (30%). Uptake is higher in those practices with contact rates above the average. In 2016, the difference in coverage between the percentages of letter contacts (5%) is larger than between percentage of DNA phone calls (3%). The increase in that difference from 2014 - 2016 is greater by percentage of telephone contacts (0-3%) than by percentage of letter contacts (3-5%).

Table 12: Coverage as of March 2016, compared with 2014, by percentage of successful letters to non-responders (DNA letter) and telephone calls to non-responders (DNA telephone call)

<table>
<thead>
<tr>
<th>Practices</th>
<th>No. of practices</th>
<th>2016 results</th>
<th>2014 results</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Eligible</td>
<td>Screened in last 30 months</td>
</tr>
<tr>
<td>≤43% DNA letter</td>
<td>19</td>
<td>8,114</td>
<td>3,082</td>
</tr>
<tr>
<td>&gt;43% DNA letter</td>
<td>17</td>
<td>8,172</td>
<td>3,547</td>
</tr>
<tr>
<td>≤30% DNA phone call</td>
<td>19</td>
<td>8,397</td>
<td>3,313</td>
</tr>
<tr>
<td>&gt;30% DNA phone call</td>
<td>17</td>
<td>7,889</td>
<td>3,316</td>
</tr>
<tr>
<td>Total</td>
<td>35*</td>
<td>16,286</td>
<td>6,629</td>
</tr>
</tbody>
</table>

*2 practices in the same group are reported jointly
Figure 3 below shows the 2016 coverage per practice plotted against the percentage of DNA telephone calls, with the approximate logistic regression relationship. There is a positive association between numbers of non-participants contacted by telephone and coverage of bowel screening.

Figure 3: Association between the numbers of non-participants contacted by telephone and the coverage of bowel screening.

**Summary**

There is evidence that the strategy of additional GP-based reminders for those not participating by four months is effective. The proportion of DNA subjects reached by telephone calls had a stronger relationship with the improvement in coverage than letter contact. Approximately one additional person was estimated to participate for every 7-8 successful DNA telephone calls.

Very similar results were observed when analysis was confined to the 60-69 age group, and when the endpoint analysed was uptake rather than coverage.

It is noteworthy that a similar project in the neighbouring CCG area, Newham, found a significant increase in participation of the same order of magnitude as in the Tower Hamlets project.
Background
This project took place in co-operation with three of the screening centres in Greater Manchester and the corresponding catchment general practices. The aims of the project were to:

- To re-engage patients with the Bowel Cancer Screening Programme (BCSP) who have tested positive on screening but failed to complete colonoscopy
- To engage GPs to encourage patients to re-engage with the BCSP
- To obtain qualitative evidence from GPs of the methods used to encourage their patients to re-engage to determine the most effective methods to suggest to GPs to use in the future
- To enhance GP education and knowledge by provision of information and key statistics giving rationale for encouraging re-engagement, and provide project feedback after evaluation to reinforce learning
- To develop links between key stakeholders to lead to the development of further projects from this project – General Practice, Bowel Cancer Screening Centres, Quality Assurance Team, NHS England, and the Manchester Cancer Colorectal Pathway Board

Most subjects who test positive in the screening programme are currently offered colonoscopy. However, about 20% of these individuals do not proceed to colonoscopy. Within this group, 10% may have bowel cancer and 50% have other significant pathology.

The reasons for failing to undergo colonoscopy include:
1. Failure to attend a screening practitioner appointment to discuss colonoscopy
2. Declined screening practitioner appointment
3. Failure to attend for colonoscopy appointment
4. Cancelled colonoscopy appointment and refused to rebook
5. Declined colonoscopy after discussion with screening practitioner
6. Declined colonoscopy – already under symptomatic services
7. Patient unfit

There is evidence that personal recommendation and discussion by GPs can enhance uptake of screening services (Hewitson et al, 2011). It is therefore conceivable that individuals that fall into the first 5 categories above could be encouraged by their GP to re-engage with the BCSP complete. A colonoscopy investigation.

Methodology
The project aimed to identify the individuals from each of the 3 Manchester Screening Centres who have not completed the screening process for the reasons 1-5 given above. A letter from the lead clinician of the Screening Centres was sent to the patient’s GP to inform them of the reason for non-completion and efforts undertaken to re-engage the patient. The GP was asked to encourage the patient to re-attend and provide some information and key statistics explaining the rationale for undergoing screening. Specific details of how to re-engage with the screening process were provided for each screening centre. GP’s were asked to provide information about the methods they used to re-engage the patients.
Results
Data were collected from individual practices on the number of patients who re-engaged and details of patient outcomes following eventual colonoscopy. A total of 101 letters were sent to GP’s of non-completers between January 2015 and end of March 2015, or patients who had recently disengaged prior to this. As of late June 2015, 12 of these people had subsequently re-engaged and completed colonoscopy.

In addition, there have been patients identified with health and social care issues, of which the screening service would not be aware prior to attendance at follow up clinic. As a result GPs have been able to contact the screening centres to help book the necessary further appointments for patient investigation.

Of the 12 colonoscopy procedures carried out, several were identified with high risk adenomas, lower risk polyps or other bowel pathology as well as normal. No cancers have been identified.

Summary
GP contact with patients who have tested positive on gFOBt screening but failed to complete colonoscopy investigation is a low cost but effective method of re-engagement with the BCSP. Given the high risk element of significant pathology findings, they remain a particular patient cohort that GPs should actively engage with. A copy of a poster produced by the project is available here.
A34 – North, Central & South Manchester CCGs

Background
The ACE bowel screening project in Manchester - a locally commissioned service (LCS) - focused on improving uptake of the BCSP by providing targeted support for the GP practices to accurately record non-responders to screening invitation on their GP systems, and subsequently contact such patients and encourage participation. Non-clinical cancer champions were the main point of contact to relevant patients, following training and support led by the Greater Manchester Bowel Screening Improvement Team.

Manchester has one of the lowest bowel screening uptake rates (40% compared to national minimum standard of 52%), with only 4% of patients diagnosed via screening (compared to 7% nationally).

Methodology
The project explored if screening uptake could be improved if a personal intervention from these trained practice staff to subjects who have not previously returned their bowel screening test kit, could result in the patient actually completing the test adequately and returning the kit to the BCSP hub.

The overall aims of this project were:
- To improve bowel cancer screening uptake across Manchester, targeting areas of low engagement
- To support practices to improve uptake of bowel cancer screening through identification of non-responders and offer of further information and/or a replacement kit
- To raise awareness of the benefits of screening by the BCSP and improve the early diagnosis of colorectal cancer
- To raise awareness of the signs and symptoms of bowel cancer

Results
Individual data returns were gathered by each practice identifying numbers of patients contacted – with the BCSP hub providing aggregate data on the number of test kits returned. The project identified 16 practices across Manchester with particularly low uptake of less than 30% (these were recognised as the “ACE practices”). The project focused on contacting the non-responder patients and ACE practices were asked to complete a form recording details of the patient contact, including reasons for not returning the kit (Table A34.1), and any change in attitude towards the bowel screening programme.

| Table 13: Reasons for not returning the screening kit |
|-----------------------------------|------------------|
| Reason for not returning the screening kit | Number (%) of contacts |
| Not interested / test not relevant | 39 (21%) |
| Kit lost / not received | 22 (12%) |
| Not sure how to use / seems complicated | 33 (18%) |
| Forgot / not had time | 29 (16%) |
| Scared of the results | 4 (2%) |
| Under hospital care | 18 (10%) |
| No further response from subject | 38 (21%) |

Note: not all patients contacted wanted to give a reason for not returning their kit
From September 2015 until August 2016, practices attempted to contact 334 non-responders. Contact was made with 183 patients, the remainder being uncontactable due to incorrect details or patients being otherwise unavailable (moved from local area, spending time abroad etc.).

The most common reason (21% of contacts) for not returning the kit was that patients were not interested in the screening programme or they did not feel the test was relevant due to lack of prevailing symptoms. A further 18% were not sure how to use the kit or felt it was too complicated to complete. 16% of patients said they had forgotten or not yet had time to complete the kit. The contact from their GP practice may have helped assure patients that there was still opportunity to take part in the screening programme.

Of the 183 patients contacted by the practice non-clinical cancer champion - 83 said they would now consider taking part in the bowel screening programme and asked for a replacement kit (45%).

The project team also monitored the uptake in these practices as well as across the CCG as a whole over time (Table 14).

The majority of practices (11/16, 69%) showed the most significant improvement in uptake during Q4 2014-15 & Q1 2015-16. This may well be related to the training and support of the practices being part of the LCS. As the LCS ended in December 2015, some practices have found it difficult to continue with the patient engagement especially with some of the difficulties encountered with requesting replacement kits. Inevitably there was a reduction in the number of patient contact proformas returned after this time.

Table 14: Uptake in the 16 ACE practices, in the pre-intervention and intervention periods

<table>
<thead>
<tr>
<th>District</th>
<th>Practice (anonymised)</th>
<th>Bowel screening uptake, pre-intervention</th>
<th>Bowel screening uptake, intervention period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central CCG</td>
<td>1</td>
<td>21.9%</td>
<td>33.3%</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>22.3%</td>
<td>20.3%</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>28.3%</td>
<td>26.3%</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>27.3%</td>
<td>45.1%</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>23.9%</td>
<td>40.9%</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>29.6%</td>
<td>29.8%</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>26.9%</td>
<td>39.1%</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>27.8%</td>
<td>30.6%</td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>25.8%</td>
<td>33.3%</td>
</tr>
<tr>
<td>North CCG</td>
<td>10</td>
<td>23.7%</td>
<td>37.5%</td>
</tr>
<tr>
<td></td>
<td>11</td>
<td>22.8%</td>
<td>10.5%</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>21.1%</td>
<td>16.7%</td>
</tr>
<tr>
<td></td>
<td>13</td>
<td>19.8%</td>
<td>26.9%</td>
</tr>
<tr>
<td></td>
<td>14</td>
<td>30.3%</td>
<td>21.1%</td>
</tr>
<tr>
<td>South CCG</td>
<td>15</td>
<td>34.0%</td>
<td>40.0%</td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>28.8%</td>
<td>20.8%</td>
</tr>
</tbody>
</table>
At the time of writing this report, the uptake figures by district were available up to Q3 Oct – Dec 2015:

- 8/9 (89%) practices in Central Manchester showed an increase from the pre-intervention to the final quarter of the intervention period
- 4/5 (80%) practices in North Manchester showed an increase from the pre-intervention to the final quarter of the intervention period
- 1/2 (50%) practices in South Manchester showed increase from the pre-intervention to the final quarter of the intervention period
- Overall, 13/16 (81%) total practices showed increase from the pre-intervention to the final quarter of the intervention period

**Summary**

Many of these patients from practices with low uptake, are from black and minority ethnic (BME) groups whose first language is not English, and find communication difficult. The fact that the non-clinical cancer champions have engaged with these patients regarding their health is a real positive outcome, working in the patients’ best interests and supporting the national screening programmes. The project demonstrated the valuable contribution by this staff group to support BME groups and in changing behaviors and attitudes.

Other learning points from the project included that 45% of subjects agreed to take part if a replacement kit were obtained for them, and that GP practices cannot provide kits directly constitutes a barrier to participation.

It would be helpful if some of the barriers could be reviewed and processes reconsidered, such as GP practices not being able to order or provide kits directly to their patients, which makes engagement more difficult for some groups of patients.
Background
People with a learning disability (PWLD) have poorer health and are more likely to die at a younger age than the general population. Their uptake of cancer screening is much lower and they are at a higher risk of gastrointestinal cancer. Bowel screening was identified through the Confidential Inquiry into Premature Deaths of People with Learning Disabilities (CIPOLD) as being particularly problematic.

The North East and Cumbria Learning Disability Network, with support from the ACE Programme, developed the work stream ‘Improving NHS cancer screening for people with a learning disability’, aiming to:
- Reduce the inequality for PWLD in accessing the offers and processes
- Increase uptake
- Embed sustainable reasonably adjusted services

Methodology
The work has developed a number of projects focusing locally, regionally and nationally making significant progress in reducing the inequality. The North East and Cumbria Learning Disability Network worked in collaboration with the local bowel screening hub, CCG, GP practices, Community Learning Disability Team (CLDT) and CRUK primary care facilitator.

The bowel screening flagging project is one feature of this broader piece of work aiming to offer support to PWLD through the active use of flagging. It enables beneficial support structures to be put in place throughout the screening process.

The project developed a pathway that identified, flagged and offered support to PWLD prior to point of invite to gFOBt screening, enabling individually tailored work to support individuals making a choice about participation and being supported through the screening process.

Results
Though the project work remains ongoing it can be reported (at 6 months evaluation) that the bowel screening hub has gone from having 7 individuals flagged as having a learning disability to 209. Of those individuals, 9 have been invited to take part in bowel screening and referred to the CLDT for further reasonable adjustment and support to their invitation.

Summary
Further evaluation will include analysis of the time taken processing the additional information by the bowel screening hub and analysis of the referral process including support given by the CLDT. It is anticipated that this analysis will support the expansion of the flagging project within the North East and North Cumbria areas, as well as sharing a model to other areas that can be replicated to support PWLD accessing bowel screening. A copy of the 6-month evaluation report is available here.
This project sought to improve participation in cancer screening programmes, particularly bowel cancer screening and particularly in more vulnerable population groups, by increasing and adapting communications to improve response to screening invitations. The project aimed to follow up non-responders by communications from general practices by:

- Using postal, telecommunications and text messaging to improve understanding and awareness of screening by for example hearing impaired people and those with learning disabilities
- Updating coding within practices to indicate need for additional support by people with disabilities or special needs to enable them to access screening

Formal contact by whatever means came from the subject’s general practice. Between 1st November 2015 and 31st May 2016, 937 previous non-responders in the bowel cancer screening programme were contacted by letter. Of these, 199 were additionally contacted by telephone.

Of the 937 subjects contacted, 468 (50%) returned a completed gFOBT kit. This is a high rate of return for previous non-responders (Tinmouth et al, 2015). Interestingly, there were 36 (8%) with a positive gFOBt result, around four times the average rate of positive tests in the programme, suggesting firstly that this population was likely to benefit clinically from the intervention, and secondly that those who respond to initiatives such as this are not necessarily representative of all invitees or of all non-participants.
A63 – Merton CCG

Background
This project was a twelve month GP enhanced service from October 2015 – September 2016, provided in partnership with NHS England, ACE, Merton Public Health, Merton Macmillan GP, NHS Merton CCG and the South West London Bowel Cancer Screening Centre, essentially to improve bowel screening uptake rates.

Uptake of bowel screening across Merton CCG is low at 50.2% - compared with England’s national average of 57.9% amongst 60-69 year olds. However, the incidence of bowel cancer in Merton is 70.6 per 100,000 which is similar to England’s average 74.1 per 100,000. Evidence shows uptake is lower in ethnic minorities and deprived groups.

The main aims of the project were to support primary care to proactively encourage screening non-responders, between the ages of 60 – 74 years to participate in the BCSP. GP practices were asked to target non responders and provide advice, information and an explanation of the process to enable patients to make an informed choice regarding participation.

Methodology
GP practices were asked to identify practice champions to focus on their registered patients who had not responded to the BCSP invitation, excluding those who were exempt due to other health conditions etc., Telephone scripts were available and templates for GP endorsed reminder letters to be sent to those who could not be contacted by telephone after two attempts (daytime & evening).

All actions were recorded on an activity record log spreadsheet with patient anonymised data returns forwarded to the Project Manager on a monthly basis for review.

Promotional material, leaflets and test kit instructions were available in a variety of languages, together with booklets, posters etc., to assist GPs in raising screening awareness and encouraging patient participation by ensuring that they understood the rationale of the test. A translation service was also available.

An integral part of the ACE project was an in depth audit of non-responders, undertaken by a local cancer screening clinician, to assess the overall effects on participation, and review a proportion of those contacted, essentially to evaluate if the subject completed the gFOBt following the personalised reminder. Two practices that were representative of the patient demographics in Merton agreed to take part in this audit.

Results
Overall bowel screening data was extracted from the Open Exeter system in January 2017 to identify if there had been an increase in uptake following the project. Table 15 shows comparative uptake for the Quarter 2 (Q2) periods July, August and September in 2014, 2015 and 2016.

Table 15: Bowel screening uptake, Merton CCG, at Q2 2014,15,16

<table>
<thead>
<tr>
<th>Year</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>July</td>
<td>49.03%</td>
<td>49.26%</td>
<td>49.61%</td>
</tr>
<tr>
<td>August</td>
<td>49.58%</td>
<td>46.80%</td>
<td>54.72%</td>
</tr>
<tr>
<td>September</td>
<td>44.28%</td>
<td>45.34%</td>
<td>50.28%</td>
</tr>
<tr>
<td>Total Q2 Uptake</td>
<td>47.63%</td>
<td>47.13%</td>
<td>51.54%</td>
</tr>
</tbody>
</table>
Uptake had increased at the end of the project, by 3.9% compared to the same cohort 2 years earlier and by 4.41% compared to the previous year.

The project considered individual GP practice performance in Merton and analysed prior to the start of the project, 10 GP practices that were below 40%, with none achieving the 60% national standard. At the end of the project only 4 practices were below 40%, with one surgery actually achieving 60%, with 2 other surgeries reaching the 60% target during the project time.

The overall figures show 3,596 contacts with patients were made as part of the project throughout Merton. In the two audited GP practices a total of 1,077 patient records were checked. Therefore approximately 30% of the patients who were contacted as part of the project were audited. Of the 1,077 patients:

- 122 (11%) were no longer patients registered at the practice
- 115 (11%) were ineligible due to illness or disability
- 766 (71%) did not complete a kit following contact (14% declined, 57% did not respond)
- 74 (7%) completed a kit

Thus, contacting 1,077 non responders yielded an additional 74 completed kits. Of these, the majority of results were recorded as normal, with others followed up by a further colonoscopy investigation. Of the 74 who completed a kit, 40 were as a result of telephone contact and 34 following letter contacts.

**Summary**

It is evident from the recent data that screening levels and detection rates in Merton have increased as a direct result of the ACE Bowel Cancer Screening Project. The project illustrates sustainable engagement and improvement across primary care, in pursuing non responders and raising awareness with targeted groups on the importance of screening, early detection of disease and intervention.

It is clear that offering brief advice is an effective intervention that a healthcare practitioner can give a patient, and is consistent with good practice. Most patients view their family doctor as a key and trusted source of advice and influence and sending invitations for screening via GP endorsed letters gives more credence to the screening offer and can have a substantial impact on uptake levels, as the success of the project demonstrates.

A number of recommendations were developed as a result of the project focusing on awareness of the BCSP for primary care staff including process based initiatives to help primary care practices as well as encouraging communication with patients. A copy of the full project report is available [here](#).
Background
This project aimed to improve overall cancer screening (breast, bowel and cervical) uptake in patients with learning disabilities (LD). This report is focused on the bowel screening programme impact.

The objectives were to reduce the barriers and inequalities to the national cancer screening programmes, ensuring patients with LD were not inadvertently or erroneously excluded from invitation. The project aimed to share good practice on supporting patients with LD to participate in cancer screening and training primary health care staff to ensure their engagement. The project was one of 6 elements of the Pennine Lancashire Primary Care Cancer Local Improvement Scheme (LIS) 2015, running from April 2015 – March 2016. It involved 85 practices, over 400 GPs and covered a population of approximately 540,000.

Methods and activities
The practices received specific baseline information on their LD population register cancer screening uptake. The number of patients on the learning disability register who had declined or been exempted from screening were also included. These figures were compared to CCG averages and cancer screening uptake of the general population (Data source: MiQUEST query/NHS England). Practices were asked to first review and sense check the data.

In May/June 2015 all practices attended locality meetings to peer review these figures. They debated and offered views on the challenge to encourage participation and considered suggestions on how it could be improved.

Stage A- Practices were asked to consider why eligible patients may not have participated in screening. They provided examples for this in addition to examples of why some patients had been deemed ineligible for cancer screening. Practices were also asked to consider what they could do to help improve screening uptake in patients with learning disabilities. All practices were sent collated information and links to national and local websites and organisations about the support available for both practices and patients.

Stage B- Practices were then asked to consider whether some patients previously deemed ineligible could now be considered as eligible. Examples were shared of individual cases where this was and also not the case. Practices were also asked to consider if patients who had previously declined cancer screening could be supported to participate.

A thematic analysis of GP practice commentary was compiled including the main findings and evaluation together with 15 1:1 interview transcripts with main participants and representatives.

Results
Of the 85 practices engaged, 80 (94%) completed stage A and 68 (80%) completed stage B. A number of practices did not agree with the data presented to them relating to their own practice, however this did not stop them participating and often acted as a catalyst for further discussion within the practice.
Of those deemed ineligible, the common reasons included, failing to respond to previous screening invitations, informed dissent and decisions based on best-interest principles. A number of subjects previously deemed ineligible were reclassified as eligible and a number of subjects previously not participating have agreed to participate. A number of suggested processes to improve screening participation have emerged from this including:

- flagging LD patients on practice registers to enable more proactive management
- using more visual aids such as DVDs and easy read materials
- including carers in discussions about screening
- having a designated practice lead
- providing follow up phone calls to patients after a screening invitation has been issued;
- arranging “walk through” visits
- timing appointments at the beginning of a clinic to reduce anxiety caused by waiting
- giving longer appointments
- proactively managing patients who fail to participate
- using the annual health checks to promote screening
- liaison with the learning disability nurses/health advisors to access additional support

**Summary**

There is a legal responsibility through the Equalities Act 2010 to provide reasonable adjustments for people with learning disabilities, to make changes in the approach/provision and to ensure that services are accessible to disabled people as well as everybody else. This local project has explored working successfully with primary care colleagues to improve the screening invitation process and support structures for people with LD. The project was led and supported by a GP Cancer Lead and commissioning lead from the CCG.
Background
Both the Kirklees and Calderdale Public Health Departments used a community engagement approach to increase bowel screening in areas of high risk and low screening adherence. Prior to the start of the ACE project the local community engagement teams carried out baseline awareness, raising engagement in a number of high risk communities - in terms of low uptake of bowel cancer screening. Many of these areas had high south Asian populations. This work highlighted recurring themes around barriers to bowel screening participation, what worked well in terms of good practice and barriers to awareness raising.

Members of the public reported not remembering receiving a kit, receiving a kit but not knowing how to take the test or the importance of it or receiving a kit, not completing it and not being sure how to order another one.

Methodology
In Kirklees the model involved the engagement team attending a range of establishments such as workplaces, lunch clubs, community events and sport/theatre establishments in the identified high risk areas. The engagement team promoted bowel cancer awareness information, symptom advice (call to action), lifestyle advice and facilitated the ordering of screening kits at the end of each session, for anyone aged 60 or over who had not completed a kit in the last two years and were not due to receive one in the near future.

The work was complemented by the work of the local CRUK coordinator who was engaging targeted GP practices in Kirklees to improve practice in relation to early diagnosis.

The project addressed the barriers to bowel screening in a number of ways. First, they offered to order kits directly for people, so that members of the public did not have to telephone to order a kit, which some found intimidating. In terms of the cultural barriers, Public Health enlisted the help of a GP of South East Asian background regarded as a senior figure in the community. The GP worked alongside a Public Health Consultant and delivered awareness sessions with the community staff also in attendance to request replacement screening kits on attendee’s behalf.

Understanding the public did not realise the importance of screening and the test was a concern. Public Health have since linked up with Kirklees College to produce a short film around the importance of early cancer diagnosis.

In Calderdale the Public Health Department provides an exercise programme for adults with or at risk of cardiovascular disease, or with diabetes, known as the Better Living Service (BLS). They extended the function of the BLS to include a six month pilot project (November 2016-April 2017) to raise awareness and increase the uptake of bowel cancer screening, undertaking a brief intervention with those between the ages of 60 and 74. The intervention included the following elements:

- Asking the individual if they are aware of the bowel cancer screening programme
- Explaining the benefits of screening and what the test involves
- Encouraging the individual to be screened and seek consent for a screening kit to be ordered and delivered to the client’s preferred address
- If consent is obtained, the BLS staff member contacted the screening hub whilst the individual is still present with them to order the kit
Results – Kirklees
A total of 107 kits have been ordered by the community engagement team. A review of kit orders and the engagement activity took place in February 2017; the engagement venues were attracting a lot of people aged 74+, reflected in the relatively low kit orders. The decision was made to change venues to be inclusive of workplaces, sport and leisure centres, and to combat the issue with South Asian communities having low kit orders, linked up with a GP to take a new piece of work forward during 2017. The following issues were identified through community engagement events and followed up with the screening hub:

- Whether there were any specialised kits available for blind/partially sighted people
- Participants over 74 repeatedly mentioned they have to call the helpline themselves every time they are due a bowel screening kit. Participants requested whether there is a way that we can give the option for people to opt back into the programme as there are issues with remembering when to order every 2 years as no reminder letter is sent. Participants made the point that as they get older they are perhaps more likely to forget

Results – Calderdale
Initial findings from the pilot suggest that proactive one to one intervention results in good uptake of requesting screening kits. Eight out of ten agreed to have replacement kits ordered and the remaining two on inquiry had been screened recently. Other activities included:

- Awareness raising with BLS clients (84)
- Awareness raising with community groups (75)
- 1:1 Brief interventions (10 - 2 contacts screened recently)
- No. of kits reordered (8)

There is no follow up by the BLS currently and data relating to the return of these kits is not collected. GP staff have asked that personal information be shared in order to improve efficiencies. Public Health is working with the BLS to improve this screening service and recommendations are expected in the near future.

Summary
Future development of the project will include the following considerations:

- Engagement in mosques led by a GP and Public Health Consultant with community engagement support
- Early diagnosis of cancer film – supported by Kirklees College Music and Film Department (with GP involvement)
- Community engagement staff to be assigned to the bowel screening agenda as a priority with an agreed schedule of events
- Campaign packs to be sent to GP practices across North Kirklees and Greater Huddersfield as part of bowel cancer awareness month. This work will involve linking closely with Cancer Research UK to ensure practices with low level uptake of bowel screening get a hand delivered pack by a CRUK facilitator to explain the importance of promoting the screening and what steps the practice can take to improve their rates.
- Review mosque engagement and look to expand depending on review
Key findings and discussion

The Programme generated informative data from twelve projects in the bowel screening cluster. Eight of the projects were able to provide quantitative data regarding the outcome of their particular intervention, whilst the remaining projects have used aggregate-based data to illustrate progress. Though the actual interventions vary slightly, primary care engagement is the common component across most of the projects, with primary health care professionals having more direct contact and communication with known non-participants.

The following key findings and implications have been recognised by the bowel screening projects in testing their interventions:

GP/Primary Care Endorsement of bowel screening
Though the current centralisation of the national BCSP absolves primary care practitioners of formal responsibility, the evidence gathered by the ACE projects confirms the benefits of engaging primary care in bowel screening uptake.

An effective way of doing this is to work in collaboration with the BCSP hubs and GP practices to provide invitees with a more personalised invitation letter from their GP, endorsing screening and offering further information, alongside the screening kit - similar to the Practice Endorsed Additional Reminder Letter (PEARL) project (A20). This project indicates an overall 3% absolute increase in adequate returned self-test kits as a direct result of including explicit GP Practice detail (GP name, address, logo etc.,) within an additional reminder letter, with the GP signing off each letter with their signature. The letters were arranged by the Southern England BCSP hub though essentially the reminder appeared to come from each individual GP practice. This evidence confirms that GP endorsement letters should ideally be electronically signed by the GP and on practice-headed paper; letters sent on behalf of the practice are generally less effective.¹

The ACE projects endorse that healthcare professionals have a continued role to play in improving bowel screening participation, encouraging informed choice. Most would like greater involvement and appropriate funding to sustain their interventions in the longer term, though there is not universal recognition that bowel screening is part of every-day business for GPs. One way of incentivising and sustaining primary care engagement is to include early cancer diagnosis, detection and cancer screening programmes in the Quality Outcomes Framework (QOF) - the voluntary annual reward programme for all GP practices in England, established to incentivise good practice. Other opportunities include incentivising local service provision within the Local Enhanced Services contract arrangements, (ACE Project A84 chose this method) or in the NHS Health Check conditions.

In summary, for those projects using GP endorsed reminders to those subjects who had not returned a completed kit within approximately three months, results varied among studies as to the strength of the effect on participation. Estimates of the number of subjects needed to contact per additional participant ranged from 6 to 27.

Interventions targeted specifically at non-responders
Most of the ACE projects were engaged specifically with making direct contact with known non-responders of the BCSP, encouraging participation based on more informed choice. A variety of methods and processes were adopted, mainly by GP practices, in following up non-responders (both first-timers or recurrent) including sending an additional reminder letter, making direct telephone contact or using pop-up prompts on GP clinical systems etc. Nottingham CCG (A17) commissioned their Clinical Assessment Service (CAS) to make the direct contact; they sent a standardised follow up letter to subjects who had received an invitation to bowel cancer screening yet not returned their test
Within 3 months. Similar to the PEARL project, this additional reminder (following on from the normal BCSP reminders) was sent on practice headed paper so that it appears to come direct from the GP practice. Nottingham also had to seek PHE Office of Data Release (ODR) approval for the East Midlands BCSP hub to release the confidential patient level detail of known non-responders to the CAS in order to make the necessary contact.

Practices adopted a range of communication methods to further engage patients, and there remains varied opinion as to whether telephone calls are seen as more effective than letters. There is some evidence that reminder letters were more effective than telephone calls (A29). Other projects however, recognise telephone calls are more effective than sending ‘yet another reminder letter’ that non-responders usually overlook. The Luton CCG (A18) reported activity suggests: of 927 subjects contacted, 510 (55%) agreed to complete a kit, and of the 510 agreeing, 73 (14%) have returned a completed kit to date – this equates to 8% of those initially contacted. Other projects (A2, A34, A63), recognise telephone calls are required to provide a more personal touch to encourage participation. Emphasis is placed on consideration of the actual timing of the telephone call, the use of mobile telephones over landlines, the benefits of having a telephone script to follow during the conversation, and recording in the patient’s notes that a conversation has taken place, which can be followed up in due course if necessary.

Manchester CCGs (A34) focused their intervention on initiating further contact via the telephone. They targeted segments of their population dominated by ethnic minority groupings and provided language interpreters to overcome any translation issues. Importantly they provided a reason to talk about screening positively, enabling it to be easier for discussion involving the right people to take place. The project indicated that conversations with patients are key to redressing the barriers and influencing participation positively.

**Varying invitation materials or strategy**

**Opportunistic Prompts.** A number of the projects have set up prompts/alerts on their GP clinical systems to endorse bowel screening opportunistically as patients contact or attend the practice. Though these additional prompts are difficult to evaluate, and rely on the healthcare professional to take responsibility and not overlook the prompts in favour of other competing healthcare messages, they are a visible alert to all practice staff of a patient’s screening status.

**Third Party Consent for the request of replacement kits.** The approval of the third party consent protocol by the BCSP has helped to resolve the issue of the inaccessibility of kits, particularly for primary care. The protocol now enables practice staff and healthcare workers (i.e. third party) to have a conversation with a patient (face to face or over the telephone), sign a proforma on the patient’s behalf that they consent to the sharing of their personal details (permitting the third party to contact the screening hub) and arrange for a replacement kit to be sent directly to the patient’s home address.

Having this facility in place and using an e-mail communication, essentially transmitted securely via an nhs.net connection to do so, can reduce some of the barriers to improving participation with the BCSP. It also further endorses primary care engagement in the bowel screening process and provides assurance a replacement kit is ordered, enhancing the potential for patient participation.

A number of the ACE projects have tested the third party protocol, establishing an e-mail facility for their healthcare professionals to request replacement kits, with good results. Some of the projects (A29, A84) have also made the request proforma available on their GP clinical systems enabling all the patient’s demographics to be automatically transferred onto the proforma for onward transmission to the screening hub.
This process requires further approval by the National Screening Committee to ensure the process fully conforms to the screening consent model, but demonstrates a positive integrated solution between primary care and the BCSP systems.

**Reducing screening inequalities.** ACE is committed to informed choice in promoting screening participation and recognises we should not intensify inequalities in participation. Two of the ACE projects considered how *reasonable adjustments* to the screening pathway can help people with learning disabilities – the North East & Cumbria Learning Disability Network (A47) and Blackburn with Darwen & East Lancashire CCGs (A84). Both projects linked with dedicated local community health teams in identifying their registered client group, providing training and education sessions to health professionals and client groups, and developing practical resources to ensure participation - how to use the self-test, easy-to-read pictorial leaflets and DVD materials for patients and their carers.

Both projects have both been subject to rigorous qualitative evaluation by the Evaluation, Research and Development Unit (ERDU) at the University of Durham. This has produced some rich evidence on effective interventions and GP insight into ‘what works best’ in engaging with vulnerable groups, such as learning disabilities.\(^{32}\)

(A84) engaged with primary care in reviewing all registered patients who had previously been regarded as ineligible for cancer screening. Practice level support for these groups of patients was provided enabling them to reconsider the ineligible status by, for example, involving the learning disability nurses, health advisors and carers in future screening invitations.

(A47) piloted the use of an additional care note flag on the national Bowel Cancer Screening System (BCSS) for patients with a learning disability, populated by up to date information generated from primary care. Four weeks prior to the estimated date of invitation, the screening hub in the North East of England informed the designated community learning disability team of the pending invitation, who could then offer tailored support to complete the test. At the start of the project 7 patients with a learning disability were known to the screening hub; at the 6-month interim reporting stage there were 209 such patients recorded. As a consequence the screening hub have identified and passed on information on 12 patients with a learning disability to the community learning disability teams for additional support.

**Re-engaging patients for colonoscopy testing.** One of the ACE projects (A30) had a different objective in re-engaging patients with the BCSP who had previously tested positive at gFOBt screening, yet failed to attend for the required subsequent colonoscopy test at the designated screening centre in Manchester. A total of 101 letters were sent to the GPs of such non-attenders; subsequently 12 patients did re-engage and attend for colonoscopy. Their diagnoses included high risk adenomas, lower risk polyps and other bowel pathology as well as no significant pathology. Given the high risk of significant pathology findings, they remain a particular patient cohort that GPs should actively seek to re-engage with.
Recommendations

The ACE projects have encouraged more eligible people to come forward for bowel cancer screening, and present feasible, acceptable, cost-effective strategies to improve uptake that should be aligned to future FIT delivery models. These key recommendations focus on making it more desirable and easier for the screening community to promote informed choice.

For policy makers & key opinion leaders:

1. **The BCSP should accelerate the continuation of GP endorsed screening invitations**
   ACE contributes to the evidence that when a subject is made aware their GP supports bowel screening, participation is increased.

   The BCSP have approved amendments to screening invitation letters, to now include positive statements of GP endorsement. ACE recommends that all GP Practices should consent to the changes (permission to include that GP Practice detail has to be renewed annually) and that implementation of these new arrangements should be accelerated by the BCSP hubs.

2. **Use of e-mail to request a replacement test kit**
   Providing a facility for GPs and associated healthcare workers to order a replacement self-test kit on behalf of patients and using an email communication, essentially transmitted securely via an nhs.net connection to do so, can reduce some of the barriers to improve participation.

   ACE recommends a standardised approach across the BCSP when replacement kits are required. Protocols have been developed by the different BCSP hubs and these examples should be considered by the BCSP for standardisation and national implementation.

   ACE also recommends exploring automated request arrangements direct from GP clinical systems.

3. **More timely bowel screening data & intelligence**
   The provision of timely bowel screening uptake and coverage data, at individual GP practice and CCG level, should be routinely available to commissioners, managers and practices. This will enable closer monitoring and evaluation of interventions and the impact of different population groups (by age, gender and ethnicity).

For commissioners of local services:

4. **Specifications should prioritise reducing inequalities in screening access**
   ACE recommends the BCSP should address local health inequalities with targeted segments of the population, promoting the benefits of bowel screening within the context of informed choice. Collaborative effort is required with local authorities, CCGs and screening partners working to identify any barriers to accessing screening in their local area and to encourage more people from hard to reach groups to participate in screening. Tailored recruitment strategies will be needed to address the apparent barriers to uptake in these groups, targeting those least likely to participate.
5. **Different communication methods to suit the needs of different population groups should be considered**

The use of evidence based interventions, such as pre-screening notification lists and more personalised reminders to non-responders are encouraged. Where appropriate, these should be adapted to suit the needs of specific population groups.

ACE recommends the CRUK developed [GP letter template](#) that can be customised by practices to send to their patients as an additional reminder, when required. Combining this with an [enhanced patient information leaflet](#) can further increase uptake. An enhanced information leaflet should include information on how to use the kit and explicitly address perceived barriers.

**For GP practices:**

6. **The role of GP Practices in supporting screening participation should be promoted**

GPs and their practice staff have a key role to play in providing details about the BCSP and in particular, discussing the pros and cons of screening with patients so they are able to make an informed choice. Having helpful healthcare messages displayed in the practice to alert people to bowel screening or opportunistic discussions during a routine visit are encouraged. These messages should highlight the benefits of screening, that the risk of developing bowel cancer increases with age, and that if bowel cancer is diagnosed earlier, treatment can be more successful and longer term survival improved.

The Royal College of General Practitioners has developed a [30-minute online bowel cancer screening course](#) which highlights the importance of the GP’s role in the BCSP.

7. **Encouraging positive dialogue and communication**

ACE recommends having actual conversations with patients as key to resolving some of the barriers and influencing positive participation. Directly targeting segments of a practice population dominated by ethnic minority groupings and providing access to interpreters to overcome language and translation issues, are considered really important. The conversations should provide a reason to talk about screening positively.

8. **Re-engaging patients for colonoscopy following positive screening test**

Patients who test positive at gFOBt are normally offered a colonoscopy investigation at their local screening centre. There is variation in numbers of patients who fail to attend their colonoscopy appointment (the average rate is 20%). Recognising that for some of these patients, colonoscopy may not be the next appropriate investigation, ACE recommends, given the high risk element of significant pathology findings in this patient cohort, they are a particular group that GPs should actively seek to re-engage with.
References

1. Hewitson, P. et al., Screening for colorectal cancer using the faecal occult blood test, Hemoccult, Cochrane Database of Systematic Reviews, 2007
4. Routes to Diagnosis workbook (a), http://www.ncin.org.uk/publications/routes_to_diagnosis (accessed Dec 2016)

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