Improving diagnostic pathways for patients with suspected colorectal cancer

Final Report

Accelerate, Coordinate, Evaluate (ACE) Programme

ACE Colorectal Pathways Cluster

June 2017
The ACE Programme would like to thank the following for their contributions:

**Project leads:**
Lesley Brewer, James Jones, Iain Johnstone, Helga Laszlo, Claire Levermore, Ed Seward, Michael Machesney, Helen Pardoe, Anthony Cunliffe, Liviu Titu, Claire Kilbride, Sue Hemer, Chris Youngman, Oliver Stonin, Kathryn Place, Muti Abulafi, Suzi Mutanda, Jonathan Miller, Mark Rawles, Paul Holroyd, and Chrissie Hunt

**PRU evaluation team:**
Stephen W. Duffy, Daniel Vulkan, Raissa Frank, Roberta Maroni

**ACE Programme evaluation leads:**
Brian Knowles, Karen Fitzgerald, Veronique Poirier, Sam Watson

---

**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 Accelerate, Coordinate, Evaluate (ACE) Programme is organised into a series of thematic clusters; this report summarises the progress of the colorectal (lower GI) pathway cluster. The cluster incorporated local NHS projects focused on the implementation of a Rapid Colorectal Diagnostic ‘Straight to Test’ (STT) Pathway following a patient’s symptomatic presentation in primary care.

There is good evidence that STT pathways are more efficient in reducing diagnostic and treatment waiting times and result in improved patient and General Practitioner (GP) experience.2,a,b,c,d

Where available, a STT pathway approach involves the co-ordination and delivery of appropriate diagnostic tests to patients, essentially without an initial out-patient clinic appointment in secondary care. A triage STT pathway operates as follows:

I. Initially patients will see their GP. If the GP decides a patient’s symptoms are appropriate for further investigation they will refer onwards to a hospital provider via the urgent 2 week wait (2WW) referral pathway (as defined by NICE referral guidance NG12)3 or, where cancer is not suspected, via a more routine pathway arrangement.

II. On receipt of the referral, the provider will contact the patient by telephone from its triage hub, usually operated by a colorectal nurse specialist. The purpose of the triage hub is to confirm the patient’s indication, fitness and willingness to have a definitive test and, aided by an algorithm, decide on the most appropriate investigation e.g., colonoscopy, in partnership with the patient. The triage hub may also arrange for a further telephone call to ensure that patients are fully prepared for their procedure, (e.g., to clarify instructions for bowel preparation).

III. At triage, if the patient is not suitable for a STT pathway they are booked into a traditional out-patient clinic appointment in secondary care to discuss their symptoms.

IV. Following the test, the diagnostic service is responsible for deciding on the appropriate next clinical steps, in partnership with the patient. There must be a local policy, agreed with the relevant clinicians, regarding how this is done.
Improving diagnostic pathways for patients with suspected colorectal cancer – Final report v1.0

Purpose

The majority of the ACE projects have implemented a triage STT pathway for their 2WW colorectal referrals; some have also offered a STT triage service for their routine referrals. The projects at Croydon and Homerton University Hospitals Trusts explored a diagnostic route more directly from primary care for their routine colorectal referrals.

In introducing a STT pathway approach the projects have essentially tested... if the diagnostic interval is shortened in time – from GP referral to the first diagnostic test and recorded cancer diagnosis? In collaboration with the Department of Health’s Policy Research Unit (PRU), the timings of these tests have been evaluated as part of a desirable minimum data set collection.

The report contents will be of particular interest to commissioners of cancer services implementing Best Possible Value (BPV) pathways, designed to incentivise high quality and cost-effective care, working towards the introduction of a mandated best-practice tariff in 2019 for STT pathways.4

An economic evaluation of the ACE colorectal cluster will be available shortly in an updated version of this report.

Context

A number of key factors help to set the context for including ‘direct and rapid access to diagnostics’ as one of the key concepts of the ACE Programme. The most significant factor is the importance of improving earlier diagnosis (and thereby reducing late diagnosis) to radically improve patient outcomes. The analysis and evaluation detailed in this report contributes to understanding which interventions support the earlier diagnosis of cancer, which in turn could be transformative in terms of improving survival rates, reducing mortality and improving quality of life.5

Achieving World-Class Cancer Outcomes (A Strategy for England 2015-2020)6 suggests this will require a shift towards faster and less restrictive investigative testing, quickly responding to patients who present with symptoms, by ruling out cancer or other serious disease, within 28 days of referral. Delivering this will require a significant increase in diagnostic capacity, giving GPs direct access to key investigative tests, and the testing of new models which could reduce the burden and expectation on GPs.

Summary of key findings and implications

The cluster generated informative data and intelligence from ten NHS projects testing the introduction of STT pathways. Whilst the actual interventions vary slightly, straight-to-endoscopic testing for appropriate 2WW referrals following telephone triage is the most common approach implemented. The following key findings and implications have been recognised by the colorectal projects in developing their STT pathway approach:

Shortened diagnostic intervals

The results vary slightly, but they are sufficiently consistent to indicate that the diagnostic interval is shortened in time – from GP referral to first diagnostic test and onwards to a confirmed diagnosis by around 1-2 weeks. This acceleration of time to first test and onwards to a confirmed diagnosis is relatively small for the most part, as the comparison in the main is with the 2WW referrals. It is likely that if the eligibility were wider, as for example in the Peterborough, Croydon and London projects, there is potential for a greater advance in the time to first test and diagnosis confirmation.
There was also a considerable reduction in the variability of time to cancer diagnosis following STT introduction. For example, at the University Hospital of Morecambe Bay waiting times for the 2WW referrals awaiting colonoscopy, standard deviation significantly reduced from 42.2 days to 17.8 days, and the 90th percentile fell from 97 days to 63 days.

**Out-patient appointment impact**
A major benefit of the STT pathway is the removal of the initial outpatient clinic appointment. This was estimable from four of the projects, with the results shown below.

**Impact of STT on outpatient appointments**

<table>
<thead>
<tr>
<th>Project</th>
<th>Referral population</th>
<th>Referrals</th>
<th>Outpatient clinic appointments not required (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UCL Partners (A22) (Whipps Cross)</td>
<td>Routine</td>
<td>1,318</td>
<td>1,031 (78)</td>
</tr>
<tr>
<td>Wirral (A28)</td>
<td>2WW</td>
<td>1,020</td>
<td>655 (65)</td>
</tr>
<tr>
<td>Wigan (A68)</td>
<td>2WW</td>
<td>1,388</td>
<td>782 (56)</td>
</tr>
<tr>
<td>Morecambe Bay (A80)</td>
<td>2WW</td>
<td>1,944</td>
<td>862 (44)</td>
</tr>
<tr>
<td>Overall</td>
<td>Mixed</td>
<td>5,670</td>
<td>3,330 (59)</td>
</tr>
</tbody>
</table>

While the percentages vary considerably, it is apparent that a majority of outpatient appointments can be removed (average circa 59%). It would also appear that the potential for removing such appointments is strongest for the routine rather than for the 2WW referrals.

For some patients an initial out-patient consultation remains entirely appropriate, benefiting from a face-to-face out-patient clinic consultation, before any invasive investigation decisions are confirmed. Some patients may present with complex clinical conditions, are frail and elderly, hard of hearing or have other disabilities; in such instances all are offered an outpatient clinic appointment in reserved slots within the maximum 2WW standard. (Note – the Wirral project have commented that since introducing STT, their colorectal outpatient clinic has reduced its ‘Did Not Attend’ rate and is also seeing more complex, highly dependent patients, necessitating the length of the appointment slots to be increased.)

In eliminating the first outpatient appointment it has freed up consultant and associated clinical and nursing staff resource to readjust job plans to include other sessional arrangements, providing a real financial benefit and incentive to sustain the pathway changes.

**Improving operational pathway management & quality**
The STT approach is reliant on high quality GP referrals, based on the use of clinical decision support tools that facilitate appropriate referral of patients onto the colorectal diagnostic pathway. This requires strong collaboration across the primary and secondary interface to agree the appropriate referral criteria aligned to the NICE 2015 guidance (NG12), educate GPs in how to understand and apply the criteria and use any required technology such as electronic referral and booking systems to streamline the referral processes.

The STT service requires strong clinical leadership with designated responsibility to direct the specialist colorectal clinical and administrative team, especially during the implementation phase of the new pathway arrangements. It essentially requires dedicated time as part of the overall agreed job plan for appropriate members of the team to triage all referrals, using a locally agreed algorithm, to the most appropriate investigation or appointment.
Using such an agreed triage protocol, the University Hospitals of Morecambe Bay has altered its first test option from flexible sigmoidoscopy to colonoscopy, ensuring patients receive the optimum ‘best test first’, thereby reducing variation and improving patient experience.

The STT pathway has proved to be an extremely flexible model as minimal operational set up is required. No outpatient clinic rooms, clinic preparation, clinic administrative or nursing staff are required. This enables the service to respond flexibly to the increasing demand for colorectal specialist opinion and the inevitable peaks in demand.

Some of the ACE projects have reported that triaging patients to radiology has been more challenging than endoscopy from a clinical perspective. Local radiologists are keen for patients to attend an outpatient clinical assessment prior to booking any radiological investigation, usually CT colonography is considered the most appropriate first investigation. A local protocol and clinical guideline agreed by the colorectal multi-disciplinary team will determine this arrangement.

**Improving patient & GP referral experience**

One of the most positive benefits the ACE projects have reported has been the high level of satisfaction and experience feedback, from both referring GPs and patients. These benefits include, the avoidance of the initial out-patient appointment, the accelerated time to diagnosis and consequent reduced anxiety and distress for those patients who transpire not to have cancer.

Analysis of patient satisfaction from over 800 returned questionnaires at the Wirral project indicate that 88% of patients are very satisfied overall with the STT service pathway. Similarly at the Barts Health project at Whipps Cross, 94% of patients thought the triage service was very convenient, with 79% preferring the telephone triage to attending the out-patient clinic.

Shared decision-making with the patient is a pre-requisite of the STT triage service with details gathered on additional comorbidities, social support and sedation risk, all helping to improve both the management of and compliance with bowel preparation. Patients are also benefitting from an indirect counselling service as the algorithm includes information on wider health determinants such as health promotion, diet, lifestyle advice, risks and symptom management.

**Improving performance management**

If a STT pathway is considered appropriate for the 2WW referrals, the appropriate first test must be performed within the mandated two week waiting period. The current national Cancer Waiting Times Monitoring Guidance states that the 2WW standard is only achieved when the patient is first seen and NOT first assessed at either a ‘virtual’ clinic or via a telephone triage arrangement. On this basis, implementing a STT pathway for 2WW referrals is extremely challenging.

Given the current constraints in endoscopy units, the ACE projects have been challenged in achieving the required investigation within the 2WW standard – they are more likely to be scoped by day 16/17, with a confirmed biopsy result received a maximum 10 days later. This implication should be considered by the relevant cancer policy teams – (see Recommendation 6) - that introducing STT within current constrained endoscopy units, may mean the 2WW standard is breached, thus failing to incentivise the healthcare system to implement the pathway changes. This should not be considered a failure, rather, that a prospective confirmed diagnosis (following histology) is well within the planned early diagnosis metric of 28 days, and an essential enabler in achieving the 62-day treatment standard when a cancer is detected.
Recommendations

These recommendations are based on the data analysis provided by the Department of Health Policy Research Unit and the intelligence and experience gathered by the ACE projects during the course of their STT pathway implementation:

1. Given the beneficial evidence and intelligence gathered by the ACE projects, STT pathways are encouraged. The recommended approach by the majority of the projects is the triage-STT and this operational arrangement seems to be the favoured option of the professional groups.

2. Local evidence should initially be gathered to support the implementation of a rapid colorectal diagnostic pathway. Undertaking an initial simulation exercise to audit and evaluate how many patients are suitable to go STT, and calculate the required full diagnostic capacity (dedicated slots, workforce etc.) is essential. Whilst acknowledging the limitations of ultimately diagnosing cancer via the 2WW referral route, this defined and manageable cohort represents a good place to start.

3. The STT service requires the input of an appropriately trained and experienced senior decision maker with strong clinical leadership skills to manage the specialist colorectal team. It requires dedicated time as part of the overall agreed job plan for appropriate members of the team to triage and navigate all referrals using a locally agreed algorithm to the most appropriate investigation or appointment.

4. The STT triage algorithm needs to confirm the indication for investigation, fitness and willingness to have a definitive test. If there is more than one queue for diagnostic investigation, then urgency could also be part of the triage process. The capacity for each of the investigatory options should be nuanced locally, recognising we should be scoring appropriately and smartly but not everybody. The concept must encapsulate a clinically-sound, locally-agreed algorithm with an option available for face to face outpatient appointment prior to the investigation, if appropriate and developed in line with any further emerging evidence.

5. There is an essential prerequisite to engage and collaborate with referring GPs and primary care teams to get high risk patients to diagnostics sooner. The use of clinical decision support tools are encouraged and a standardised, electronic referral proforma involving the national Electronic Referral Service as outlined by the NHS Standard Contract should include all available information to inform a decision on the required further investigation.

6. There should be a threshold for the proportion of patients that go STT – rather than expecting all to be suitable – which will help to incentivise the system promoting STT. The colorectal ACE projects suggest that approximately 59% of the 2WW referrals are suitable to go ‘Straight to Test’. However, we need to be careful about over-promoting colonoscopy, acknowledging that CT colonography is a more appropriate test option for some patients.

7. There should be consideration by the cancer policy teams that if the telephone triage assessment (usually undertaken on day 2 or 3) results in a patient going straight to a first diagnostic test, the day of the telephone assessment should be considered the first consultation in meeting national cancer waiting times performance standards. It is anticipated the performance standard that all 2WW referral patients ‘must be seen by a cancer specialist within 2 weeks’ will be removed given the implementation of the 28 day faster diagnosis standard.
8. The STT criteria should be based on the intent to triage all patients to first investigation (prior to an initial out-patient attendance) in as timely a way as possible, with sensitive discussion amongst clinical professions required to alleviate fears of ‘opening the floodgates’. It is likely that if the eligibility for entry onto the STT pathway is wider, beyond the 2WW cohort, as in the case of the Peterborough, Croydon and London ACE colorectal projects, there is potential for a greater advance in the time to diagnosis. If localities are able to provide this extended service it should be encouraged as there is evidence in the analysis from Peterborough that there is no noticeable increase in demand for endoscopic investigation.

9. There must be a clear pathway for managing patients post-investigation. Those patients identified with cancer should have immediate staging investigations, their diagnosis confirmed at MDT discussion, followed by an out-patient appointment to discuss definitive diagnosis and treatment plans. It would be considered good practice for each patient to meet a colorectal clinical nurse specialist (CNS) when the diagnosis is suspected at colonoscopy, mindful of the effects of sedation.

10. It is anticipated that release of doctors and specialist nurses from running outpatient clinics will potentially enable redistribution to other areas, such as theatre lists and endoscopy. It is acknowledged that ‘freeing up’ clinicians to provide yet more endoscopy will only work if capacity in endoscopy nurses, room availability and all other endoscopy resources are also available.

11. A unified approach is required across the NHS, working in collaboration with the NHS National Cancer Programme to develop the required endoscopy capacity and workforce. The Cancer Strategy 2015–2020 identifies some promising solutions, including additional investment, Health Education England developing a national training scheme for non-medical endoscopists, and a pledge to train an additional 200 more endoscopists by 2018. The ACE Programme endorses these commitments, acknowledges the pace and scale will be determined by the available budget, yet reiterates it is essential the strategy recommendations are implemented without delay.
## Contents

Executive Summary..................................................................................................................... i

Introduction ................................................................................................................................ 1

Summary of ACE projects........................................................................................................... 5

A6 - East Midlands Strategic Clinical Network & East Midlands Academic Health Science Network ..... 6

A11 - James Paget University Hospitals NHS Foundation Trust....................................................... 8

A22 - UCL Partners - London Cancer .............................................................................................. 9

A25 - NHS Wandsworth CCG & St George’s University Hospitals NHS FT ...................................... 11

A28 - NHS Wirral CCG and Wirral University Teaching Hospital NHS FT ........................................ 12

A59 - NHS Cambridgeshire and Peterborough CCG......................................................................... 15

A68 - NHS Wigan Borough CCG & Wrightington, Wigan & Leigh NHS FT ..................................... 17

A72 - NHS Croydon CCG and Croydon University Hospital NHS FT .............................................. 19

A74/79 - South West Strategic Clinical Network (Cancer)................................................................. 19

A80 - University Hospitals of Morecambe Bay NHS FT................................................................ 20

Summary of Key Findings and Implications ................................................................................ 22

Recommendations ....................................................................................................................... 25

Resources ..................................................................................................................................... 27

References ..................................................................................................................................... 29
**Introduction**

The Accelerate, Coordinate, Evaluate (ACE) Programme\(^1\) is organised into a series of thematic clusters; this report summarises the progress of the colorectal (lower GI) pathway cluster. This cluster incorporated local NHS projects focused on the implementation of a *Rapid Colorectal Diagnostic ‘Straight to Test’ (STT) Pathway* following a patient’s symptomatic presentation in primary care.

There is good evidence that STT pathways are more efficient in reducing diagnostic and treatment waiting times and result in improved patient and General Practitioner (GP) experience.\(^{2a,b,c,d}\)

Where available, a STT pathway approach involves the co-ordination and delivery of appropriate diagnostic tests to patients, essentially without an initial out-patient clinic appointment in secondary care. A triage STT pathway operates as follows:

I. Initially patients will see their GP. If the GP decides a patient’s symptoms are appropriate for further investigation they will refer onwards to a hospital provider via the urgent 2 week wait (2WW) referral pathway (as defined by NICE referral guidance NG12)\(^1\) or, where cancer is not suspected, via a more routine pathway arrangement.

II. On receipt of the referral, the provider will contact the patient by telephone from its triage hub, usually operated by a colorectal nurse specialist. The purpose of the triage hub is to confirm the patient’s indication, fitness and willingness to have a definitive test and, aided by an algorithm, decide on the most appropriate investigation, e.g., colonoscopy, in partnership with the patient. The triage hub may also arrange for a further telephone call to ensure that patients are fully prepared for their procedure, (e.g., to cover instructions for bowel preparation).

III. If the patient is not suitable for a STT pathway they are booked into a traditional out-patient clinic appointment in secondary care to discuss their symptoms.

IV. Following the test, the diagnostic service is responsible for deciding on the appropriate next clinical steps, in partnership with the patient. There must be a local policy, agreed with the relevant clinicians, regarding how this is done.

---

\(^1\) ACE Programme

\(^2\) a,b,c,d

---

**Figure 1: Rapid Colorectal Diagnostic Pathway**

![Rapid Colorectal Diagnostic Pathway Diagram](image)

Source: Cancer Research UK
Purpose

The majority of the ACE projects have implemented a triage STT pathway for their 2WW colorectal referrals; some also offered a STT triage service for their routine referrals. The projects at Croydon and Homerton University Hospitals Trusts explored a diagnostic route more directly from primary care for their routine colorectal referrals.

In introducing a STT pathway approach the projects have essentially tested... if the diagnostic interval is shortened in time – from GP referral to the first diagnostic test and recorded cancer diagnosis? In collaboration with the Department of Health’s Policy Research Unit (PRU), the timings of these tests have been evaluated as part of a desirable minimum data set collection.

The report contents will be of particular interest to commissioners of cancer services implementing Best Possible Value (BPV) pathways, designed to incentivise high quality and cost-effective care, working towards the introduction of a mandated best-practice tariff in 2019 for STT pathways.4

An economic evaluation of the ACE colorectal pathways cluster will be available shortly in and updated version of this report.

Context

A number of key factors help to set the context for including ‘direct and rapid access to diagnostics’ as one of the key concepts of the ACE Programme. The most significant factor is the importance of improving earlier diagnosis (and thereby reducing late diagnosis) to radically improve patient outcomes. The analysis and evaluation detailed in this report contributes to understanding which interventions support the earlier diagnosis of cancer, which in turn could be transformative in terms of improving survival rates, reducing mortality and improving quality of life.5

Achieving World-Class Cancer Outcomes (A Strategy for England 2015-2020)6 suggests this will require a shift towards faster and less restrictive investigative testing, quickly responding to patients who present with symptoms, by ruling out cancer or other serious disease, within 28 days of referral. Delivering this will require a significant increase in diagnostic capacity, giving GPs direct access to key investigative tests, and the testing of new models which could reduce the burden and expectation on GPs.

**Rising incidence.** Colorectal 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.7

**Mortality and late stage disease.** Around 15,900 people died of colorectal cancer in 2014 in the UK, that’s more than 44 people every day8. Most colorectal 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 treatment9.

**Poor Survival.** Improving patient survival from a diagnosed cancer is a key challenge identified in Achieving World Class Cancer Outcomes: A Strategy for England 2015-20208 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, and also to the 25% of diagnosed colorectal cancers via an emergency pathway during the overall 2006-13 period.
**Routes to Diagnosis.** The National Cancer Registration and Analysis Service (NCRAS) produces Routes to Diagnosis\(^{10}\) intelligence on cancers diagnosed via 8 different presentation pathways including screening, urgent and routine GP referral, emergency etc., detailing how relative survival compares (in time-periods) across the different routes, post colorectal cancer diagnosis. The urgent GP referral ‘two-week wait’ is the most common route to diagnosing colorectal cancer (28% of diagnoses - 2006 to 2013). More than 4 in 10 (44%) of these cases with known stage are diagnosed early (stage I or II).

(25%) of colorectal cancer cases are diagnosed after presenting as an emergency. Around 7 in 10 (68%) of these cases with known stage are diagnosed late (stages III or IV).

Cancers diagnosed following testing by the National Bowel Cancer Screening Programme show the highest rates of survival over time with those diagnosed via the emergency route the lowest.

**Earlier diagnosis.** Diagnosing substantially more cancers earlier could be transformative in terms of improving survival reducing mortality and improving quality of life.\(^3\) The Cancer Strategy for England 2015-2020\(^4\) suggests this will require a shift towards faster and less restrictive investigative testing, quickly responding to patients who present with symptoms, by ruling out cancer or other serious disease.

It recommends (Recommendation 24) setting an ambition that by 2020, 95% of patients referred for testing by a GP are definitively diagnosed with cancer, or cancer is excluded, and the result communicated to the patient, within four weeks. Delivering this will require a significant increase in diagnostic capacity, giving GPs direct access to key investigative tests, and the testing of new models which could reduce the burden and expectation on GPs.

**Cancer waiting times.** Since the introduction in 2000 of the mandatory standard for patients with suspected colorectal cancer to be first seen by a specialist within two-weeks, there has been a steady increase in the number of patients referred.\(^11\) The ‘two-week wait referral’ (2WW) referral aims to accelerate any resulting cancer diagnoses, so it is important that patients with suspected cancer symptoms are referred promptly. The criteria for referral is based on the 2015 referral guidelines (NG12) endorsed by the National Institute of Health and Care Excellence (NICE).\(^3\)

There are associated standards for the 2WW referred patients in that delivery of treatment for those diagnosed with cancer must not exceed 62 days (from the date of the 2WW referral)\(^11\). The speed at which patients receive their treatment can have a positive outcome on their clinical outcome, so it is essential that patients with cancer symptoms are treated promptly.

These standards remain extremely challenging for current colorectal services. Of the 260,000 patients referred to hospital with suspected lower gastrointestinal cancer symptoms in the UK, 93% were seen within the 2WW period only 72.8% were treated within the 62-day treatment wait.\(^12\)

**Diagnostic capacity and demand.** Even though there is variation in the design of diagnostic colorectal pathways, the two most frequent tests are flexible sigmoidoscopy and colonoscopy. Scoping the Future\(^13\) is an evaluation report of endoscopy services across the NHS in England, published by CRUK in 2015, that endorses the concerns of staff struggling to cope with increased demand and a lack of trained endoscopic workforce. It reports the NHS will need to carry out close to a million more endoscopies per year by 2020 from approximately 1.7 million per year now, to around 2.6 million. This represents a huge challenge and urgent action is required now if the NHS is able to respond and provide positive solutions.
Improving diagnostic pathways for patients with suspected colorectal cancer – Final report v1.0

**Introduction of the Faecal Immunochemical Test (FIT).** The implementation of the quantitative FIT testing in screening, symptomatic and surveillance patients, and in particular the potential impact on increased endoscopy demand is currently being debated by cancer policy teams and stakeholders. FIT is more reliable and sensitive than other early investigations and may avoid the need for patients with a negative result to undergo unnecessary further invasive endoscopic testing. This increased sensitivity enables FIT to detect more pre-cancer lesions (advanced adenomas). It will be introduced as the primary test of the National Bowel Cancer Screening Programme (England) in 2018 and several pilots are underway testing FIT applicability amongst symptomatic groups of patients. (Nottingham 2016, UCLH 2016). The role of quantitative FIT testing and its impact on endoscopy demand will continue to develop as evidence emerges to support its use as a triage tool.

**STT evidence.** The introduction of a STT pathway can reduce diagnostic and treatment waiting times for patients with colorectal cancer. Specifically, Whittington in 2012 reduced their waiting time for 2WW referrals by 10 days; Barts Health (Whipps Cross) in 2013 reduced their mean time for 2WW referrals by 13 days.

**Economic impact of STT.** An economic evaluation from Barts Health NHS Trust reported potential savings of nearly £80,000 a year due to reduced numbers of outpatient appointments enabling clinicians to undertake other work, making more efficient use of their time.

**Introduction of a Best Practice Tariff (BPT).** A BPT is a national fixed price that is designed to incentivise high quality and cost-effective care, encouraging the spread of best practice. NHS England (NHSE) have suggested the development of a BPT for STT services would help to reduce variation by incentivising consistent uptake of STT pathways. However, following consultation in 2016 NHSE working with NHS Improvement have deferred its mandated introduction until the next tariff engagement round (2019/20) in order that further clinical and cost effective evidence can be incorporated. Meanwhile, supported by a number of key stakeholders NHSE have introduced a non-mandated version of the BPT for STT services, including those patients without cancer but with significant symptoms.

NHSE will issue further guiding principles in 2017 to support implementation of a ‘rapid colorectal diagnostic pathway’ (incorporating STT approaches) and are keen that models of investigation developed in well-resourced expert units are adapted and implemented in all types of hospitals and gastroenterology units, otherwise patients will have inequitable access and outcomes will not be universally improved.
Summary of ACE projects

Table 1 summarises the nature of the ACE interventions, the organisations involved and the areas in which they took place. For the most part, the interventions involve streamlining the pathway to the first diagnostic investigation, mainly colonoscopy, via a triage STT facility. We have also included one upper gastrointestinal project led by the East Midlands Strategic Clinical Network (Cancer), as there is no ACE cluster for upper gastrointestinal pathways. All others are explicitly colorectal pathway projects. The projects are not all at the same stage of reporting, but some results are available from the majority. Project-by-project reports follow.

Table 1: Brief description of the projects in the ACE colorectal pathways cluster

<table>
<thead>
<tr>
<th>Project ref.</th>
<th>Organisation/Area</th>
<th>Period</th>
<th>Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>A6</td>
<td>East Midlands Strategic Clinical Network &amp; East Midlands Academic Health Science Network</td>
<td>January 2013 - December 2015. Retrospective audit &amp; analysis</td>
<td>A number of interventions to improve the timely diagnosis and experience for urgently referred patients with suspected oesophageal and gastric cancers in six constituent hospitals in the East Midlands</td>
</tr>
<tr>
<td>A11</td>
<td>James Paget University Hospitals NHS Foundation Trust</td>
<td>May 2015</td>
<td>Feasibility study in providing straight-to-test flexible sigmoidoscopy in selected patients based on 2 week wait referrals</td>
</tr>
<tr>
<td>A22</td>
<td>UCL Partners London Cancer</td>
<td>1st September 2014 onwards</td>
<td>To establish a Quality Improvement Collaborative to implement and sustain straight-to-test models of care (via GP direct access or hospital based triage) across constituent organisations of London Cancer</td>
</tr>
<tr>
<td>A25</td>
<td>Wandsworth CCG</td>
<td>July 2016 onwards</td>
<td>Straight-to-test service for 2WW referrals via hospital based triage at St George’s UHT</td>
</tr>
<tr>
<td>A28</td>
<td>Wirral CCG and Wirral University Teaching Hospital NHS FT</td>
<td>1st July 2015 onwards</td>
<td>Straight-to-test service for appropriate 2WW referrals following a hospital based ‘virtual’ clinic triage arrangement</td>
</tr>
<tr>
<td>A59</td>
<td>Peterborough City Hospital, Cambridgeshire and Peterborough CCG</td>
<td>August 2013 to December 2014</td>
<td>Straight-to-endoscopy referral from general practice. Endoscopies performed privately outsourced from the local NHS hospital configuration.</td>
</tr>
<tr>
<td>A68</td>
<td>Wigan Borough CCG &amp; Wrightington, Wigan and Leigh NHS FT</td>
<td>1st April 2015 onwards</td>
<td>Straight-to-test service for appropriate 2WW referrals following a hospital based triage arrangement</td>
</tr>
<tr>
<td>A72</td>
<td>Croydon CCG &amp; Croydon University Hospital NHS Foundation Trust</td>
<td>June 2015 onwards</td>
<td>A ‘one-stop’ GP direct access endoscopy service for patients with rectal bleeding and other high risk symptoms to promote the early diagnosis of colorectal cancer</td>
</tr>
<tr>
<td>A74/A79</td>
<td>South West Strategic Clinical Network &amp; South West Commissioning Support Unit</td>
<td>February 2015 onwards</td>
<td>A variety of straight-to-diagnostic test approaches for patients with colorectal symptoms. Merging of referral routes to ensure both urgent and routine referrals are simultaneously fast tracked to timely treatment.</td>
</tr>
<tr>
<td>A80</td>
<td>University Hospitals of Morecambe Bay NHS Foundation Trust</td>
<td>1st April 2015 onwards</td>
<td>Straight to Test service for 2WW referrals via hospital based administrative triage service based on symptom criteria</td>
</tr>
</tbody>
</table>
A6 - East Midlands Strategic Clinical Network & East Midlands Academic Health Science Network

Background
The East Midlands Strategic Clinical Network (Cancer) have been focusing on oesophageal and gastric (upper GI) cancer. Some of the constituent Trusts across the network have introduced a STT pathway for 2WW referrals, enabling GP’s to refer patients with suspected upper GI cancer ‘straight to first test’. The project aimed to evaluate what impact a STT pathway has on diagnosing upper GI cancers in the East Midlands, in particular reducing the time to diagnosis, improving patient experience and overall outcomes.

Methods of analysis
Retrospective data from 3 Trusts were collected for all patients referred between 2013 and 2015 with suspected upper GI cancer, subsequently diagnosed with cancer. These data were then stratified by patients who were directed straight to first test and those who were first seen in a traditional outpatient setting. The two cohorts were then compared measuring waiting times in days between key milestones along the pathway. Data from two Trusts who did not implement the STT pathway were used as a benchmark control.

Measurements
The Straight to Test patient cohort was compared against both the traditional pathway and the control cohort, using the following measurements (in days):
- Date of receipt of referral to date the patient was first seen in secondary care
- Date of receipt of referral to date of clinical diagnosis
- Date of clinical diagnosis to the date the decision to treat was made
- Date of receipt of referral to date the decision to treat was made
- More details around the methodology are available in the full project report (see link below)

Findings
The table below records the analysis of the data detailing the average days waited between key milestones along the pathway:

<table>
<thead>
<tr>
<th>Measurement</th>
<th>STT (n=340)</th>
<th>Traditional Pathway (n=495)</th>
<th>Control Trusts (n=566)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Referral to First Seen</td>
<td>9.03 (8.64-9.42)</td>
<td>9.01 (8.67-9.35)</td>
<td>8.79 (8.11-9.48)</td>
</tr>
<tr>
<td>Referral to Diagnosis*</td>
<td>18 (17-20)</td>
<td>34 (32-36)</td>
<td>26 (24-29)</td>
</tr>
<tr>
<td>Diagnosis** to Treatment</td>
<td>31 (27-35)</td>
<td>24 (21-27)</td>
<td>32 (30-34)</td>
</tr>
<tr>
<td>Overall Referral to Treatment</td>
<td>46 (42-50)</td>
<td>53 (49-58)</td>
<td>58 (55-62)</td>
</tr>
</tbody>
</table>

Notes: * Diagnosis as date of pathology report or MDT meeting
**Diagnosis as Date of decision to treat

Table 2 illustrates patients referred Straight to Test on average are diagnosed 16 days sooner than those referred along the traditional pathway and 8 days sooner than those in the control trusts. However, the time from decision to treat to treatment is on average 7 days slower for those referred STT than those on the traditional pathway.
Figure 2: Days from referral to diagnosis. Source: Trust cancer tracking systems

Figure 2 depicts the faster average time from referral to diagnosis for patients on the STT pathway compared with the traditional pathway and control trusts, but also shows a reduced variation in the time from referral to diagnosis for the STT patients. The middle 50% of patients received their diagnosis between day 10 and day 20 (10 day window) on the STT pathway, compared with 23 day and 16 day windows in the traditional pathway and control trust cohorts respectively.

Conclusions
The analysis indicates that patients on the STT pathway are diagnosed sooner (saving on average 16 days between referral received and clinical diagnosis when compared with the traditional pathway) and that overall, patients are receiving treatment on average 7 days earlier. This saving could be even greater if the momentum of the early diagnosis was continued through the diagnosis to treatment time period.

The data suggest that the time period between diagnosis and treatment needs investigating in more depth as the data available for this evaluation were not detailed enough to identify any root cause for this delay. In summary, being referred Straight to Test has had a sustained improvement on early diagnosis for patients diagnosed with an oesophageal or gastric cancer in the East Midlands.

Recommendations (summary)
• Maintain a STT pathway as an effective way of improving earlier diagnosis and patient experience
• Monitor the STT pathway performance from referral to treatment - this may need improved patient tracking and monitoring tools to capture the required data
• Investigate reasons why time between diagnosis and treatment is longer for STT patients
• Use the intended Faster Diagnosis Standard that all cancer patients should be diagnosed with 28 days of referral as a way of monitoring early diagnosis (full implementation due 2020)

Limitations of the report
Identifying patients who went Straight to Test was difficult, compromised by inconsistent data recording. It was only possible to do this at the specialist centres; Derby Teaching Hospitals NHS Foundation Trust (FT), University Hospitals of Leicester NHS Trust and Nottingham University Hospitals NHS Trust. The other Trusts did not record sufficient data to identify which patients went straight to first test. This did not affect United Lincolnshire Hospitals NHS Trust or Northampton General Hospital NHS Trust as they had not implemented STT and acted as a control in this evaluation.

A full copy of the A6 Project Report is available here.
Background
This project was intended to implement a Straight to Test flexible sigmoidoscopy service for patients with suspect colorectal cancer symptoms who were referred on the 2WW pathway. The colorectal team agreed a ‘Straight to Test triage protocol’ in the first instance, in that all 2WW referrals would be reviewed on a daily basis by the colorectal team (consultant surgeons and nurse specialists).

However, due to capacity constraints within endoscopy services and the rising demand of the number of 2WW colorectal referrals received, the Trust has not yet proceeded to sustained implementation of a STT colorectal pathway. The Trust were also hindered by a performance issue in that if a STT pathway is considered appropriate for a 2WW referral, the appropriate first investigation must still be performed within the mandated two week waiting period. Ensuring all 2WW colorectal referrals had their first investigation within this waiting time standard has been extremely challenging for the Trust.

In the meantime the Trust have been gathering local evidence to support the planned implementation of their STT approach and undertook an initial ‘virtual’ local pilot to understand and evaluate how many 2WW referral patients were suitable to go STT, vs the required full diagnostic capacity (slots, skilled workforce etc.). A summary of the virtual pilot is available here.

Scope
- All of the 2WW referrals were reviewed by a colorectal consultant surgeon with input from a colorectal nurse specialist in a ‘virtual’ clinic triage for a month trial
- An agreed algorithm with an option available for face to face outpatient appointment prior to test was developed in line with researched evidence
- The 2WW patients were all then actually reviewed and ‘first seen’ in the normal outpatient clinic setting
- A comparison was then made between those patients considered appropriate for a STT investigation in the virtual clinic setting vs the proposed investigation agreed during the outpatient clinic consultation

Findings
- A total of 89 referrals on a 2WW pathway were clinically reviewed for triage STT in the virtual clinic
- 22/89 (25%) were considered appropriate for straight to flexible sigmoidoscopy
- 67/89 (75%) were considered suitable for a face to face outpatient consultation
- Of the 22 patients considered appropriate for flexible sigmoidoscopy, the majority were actually investigated via a colonoscopy (14 patients)
- At least 8/22 proposed to have a STT - flexible sigmoidoscopy would have eventually required a colonoscopy.

Conclusions
- A STT flexible sigmoidoscopy pathway was considered not feasible using the current referral proformas
- A nurse-led colorectal telephone assessment pathway (CTAP) to clarify each patient’s symptoms and triage to the appropriate first investigation or appointment is recommended
Background
A Quality Improvement Collaborative was established across London Cancer to implement and spread STT pathways for colorectal referrals in constituent organisations. Several Trusts have successfully sustained their dedicated STT pathway approach and data were available from two organisations - Whipps Cross University Hospital (Bart’s Health NHS Trust) and the Homerton University Hospital. Whipps Cross introduced STT colonoscopy or flexible sigmoidoscopy following telephone triage, and the Homerton offered GP direct access referral to colonoscopy or flexible sigmoidoscopy with no triage, but with GP’s briefed on appropriate symptomatic patients to refer, contraindications etc.,

Data Analysis – Whipps Cross
At Whipps Cross, 1,318 patients were referred to the STT service between September 2013 and June 2017. Following triage, 1,031 (78%) were appropriate for a straight to first test pathway and investigated in endoscopy (colonoscopy (729, 71%), flexible sigmoidoscopy (175, 17%) and 12% included gastroscopy alone (13), gastroscopy with colonoscopy (102) and gastroscopy with flexible sigmoidoscopy (12)). The average age of patients referred was 51 years. 47% of referrals were male, 53% female.

When the project started in 2013, the STT service was available for 2WW referrals, but since August 2014 the service has only been available for routine non-urgent colorectal referrals. However, 155 patients were upgraded by the consultant teams to the urgent referral pathway at the triage stage, the patients’ symptoms requiring accelerated investigation.

The average waiting time from triage to test was 36 days for patients who would otherwise have been referred on the 18 week pathway (757 patients), and 19 days for the upgraded patients (155 patients). This is a considerable reduction in waiting time over what would be expected for the routine non-urgent referral pathway.

Diagnosis after STT endoscopy
Table 3 below shows the outcomes following a STT endoscopy pathway. 19 (2%) of the patients were diagnosed with a colorectal cancer. 19 (2%) of patients were diagnosed with colorectal cancer and 197 (19%) were diagnosed polyps. Some patients had more than one pathology diagnosed.

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>No. of diagnoses (% of patients)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cancer</td>
<td>19 (2)</td>
</tr>
<tr>
<td>Polyps</td>
<td>197 (19)</td>
</tr>
<tr>
<td>Inflammatory bowel disease</td>
<td>86 (8)</td>
</tr>
<tr>
<td>Haemorrhoids and Diverticulum</td>
<td>354 (34)</td>
</tr>
<tr>
<td>Gastric pathology*</td>
<td>67 (6)</td>
</tr>
<tr>
<td>No abnormality diagnosed</td>
<td>308 (30)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,031</strong></td>
</tr>
</tbody>
</table>

* Gastric pathology (includes: gastritis/oesophagitis/duodenitis/peptic ulcers/hiatus hernia)

The results also indicate that at least 1,031 (78%) patients had an initial outpatient appointment removed as a result of the STT pathway. This represents a considerable potential saving of resources, and additional convenience for the patients.
Data analysis – Homerton UHT
Some 588 colorectal patients were referred for direct access flexible sigmoidoscopy (400) or direct access colonoscopy (188) between March 2015 and October 2016. All of these referrals were regarded as routine, non-urgent by the referring GP. There were 292 (50%) male patients and 296 (50%) female scoped. The overall average age was 43 years (range 18-74).

There were no cancers among the 400 referrals for flexible sigmoidoscopy, though 77 patients (19%) were diagnosed with polyps. The average age was 38 years old (range 18-74). The average time from referral to the flexible sigmoidoscopy was 23 days (range 12 – 96, 90th percentile: 32 days).

Among the 188 patients referred for direct access to colonoscopy. A total of 59 cases were reported as having a lesion. Two were cancers and the other were polyps. 50% (95) of patients reported a change in bowel habit without rectal bleeding as one of their symptoms and 32% (60) reported rectal bleeding with or without other symptoms; 18% (33) reported other symptoms or family history of colorectal cancer. The average age was 54 years old (range 40-71).

The average time between referral and procedure was 45 days (range 12-155 days). Of those examined 57 (30%) had some abnormality found on colonoscopy. There was no significant association between presenting symptom, the time from referral to procedure and onwards to a confirmed diagnosis. Of the 57 with some abnormality, one had cancer and one had possible cancer, still being investigated.

Conclusions
These particular STT services address the needs of the routine colorectal symptomatic referrals and considerably streamline the pathway to achieve an earlier diagnosis for patients who otherwise would have experienced a long waiting time period. The Homerton improved access to endoscopy services by removing the hospital triage system and allowing direct booking of flexible sigmoidoscopy and colonoscopy from primary care.
The colorectal team at St George’s started a new service in July 2016, which involves a redesign of the way 2WW colorectal referrals from GPs are managed. A ‘Colorectal Telephone Assessment Service’ was implemented in an attempt to modernise and streamline the referral system for patients with colorectal cancer symptoms. This is being piloted on a single clinic basis but if successful will be increased in due course.

This will enable patients to be seen in the most appropriate setting and in a more timely fashion, creating time to be spent with patients once a diagnosis has been made. The Trust hope to offer all their patients a first contact with the hospital within two weeks. The new service will also help achieve the cancer waiting times standards, in that all patients referred urgently by their GP, if diagnosed with cancer, should be treated within 62 days of the referral date.

A copy of the new Straight to Test Protocol which provides a summary of the pathway is available [here](#).

The Trust acknowledged the important role GPs play in helping to make the redesigned pathway a success, in particular by the referring GP completing composite referral information.

All the required information is now included on the redesigned 2WW referral form, aligned to the NICE (NG12) referral guidance. A copy of the pan-London referral form is available [here](#) and should be read in conjunction with the pan-London Suspect Cancer Referral Support Guide available [here](#).

Most of the following information is now included in the new referral form:

- Is the patient unsuitable for a telephone assessment (i.e. hard of hearing, does not speak English, learning difficulties, very frail and elderly, has specifically requested a face to face appointment, doesn’t have a telephone)?
- Results of all recent relevant blood test, including FBC, ferritin, iron studies, eGFR & creatinine
- Results of abdominal and PR examination done in surgery
- Has your patient already had recent bowel investigations?
- PMH and list of all current prescription medication

Though the following items are part of the telephone assessment, the GP is also asked for their opinion as part of their overall referral:

- In your opinion is the patient fit enough for bowel prep at home?
- Patient’s social situation – i.e. do they live alone, local support
- Patient’s state of mobility

Following the GP referral, the patient is contacted from the appointed telephone clinic, an assessment made on the full patient condition, and the appropriate investigations are initiated. The results of these are reviewed and the most appropriate plan is made for each patient. Both the referring GP and the patient are involved and consulted throughout this process.
Background
The intervention at the Wirral University Teaching Hospital NHS Foundation Trust was to establish a ‘virtual clinic’ run daily and led by the colorectal specialist team. The detailed 2WW referral proforma completed by the referring GPs, were considered at the virtual clinic, enabling allocation of appropriate diagnostic tests at an earlier stage of the pathway. The team aimed to contact all patients the same day, to agree a booked date for their required tests, or make arrangements for those patients to attend an initial out-patient appointment where this was considered more appropriate. The intervention aimed to reduce the time to diagnosis and to improve communication between the hospital and the referring GPs and practices. The innovative pathway is summarised in Figure 3.

Figure 3. Virtual clinic pathway in the Wirral project

Data analysis
A total of 1,243 records from the ‘virtual clinic’ were returned for analysis, for the period July 2015 – June 2016.

Referral to virtual clinic time
The average age of the patients was 69 years (SD 12, range 19-101); there were 574 (46%) males and 669 (54%) females. Table 4 illustrates the time from urgent referral to the virtual clinic. This averaged 2.3 days.
Table 4: Interval times from referral to virtual clinic

<table>
<thead>
<tr>
<th>Duration</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Same day</td>
<td>50 (4)</td>
</tr>
<tr>
<td>1 day later</td>
<td>487 (39)</td>
</tr>
<tr>
<td>2 day later</td>
<td>289 (23)</td>
</tr>
<tr>
<td>Between 3-7 days *</td>
<td>401 (32)</td>
</tr>
<tr>
<td>More than 7 days</td>
<td>16 (1)</td>
</tr>
<tr>
<td>Total</td>
<td>1,243 (100)</td>
</tr>
</tbody>
</table>

* Between 3-7 days as follows: 3 days, 35%; 4 days, 41%; 5 days, 17%; 6 days, 5% and 7 days, 2%

The outcomes of the virtual clinic were recorded for 1,020 of the 1,243 patients. Of these, 655 patients were booked directly to attend a diagnostic investigation; 359 patients were considered appropriate to attend an initial outpatient appointment (of whom 319 were subsequently referred for a diagnostic procedure). In summary, 65% of patients proceeded straight to first test, without the need to attend hospital for an initial outpatient appointment.

Diagnostic investigation

A total of 974 patients were eventually referred for some form of diagnostic investigation; the type of investigations are detailed in Table 5. Some patients underwent more than one investigation and therefore the data presented below amount to more than 974.

Table 5: Referrals for investigation

<table>
<thead>
<tr>
<th>Investigation</th>
<th>Numbers referred</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colonoscopy (no CT colonography)</td>
<td>738</td>
</tr>
<tr>
<td>CT colonography (with or without colonoscopy)</td>
<td>206</td>
</tr>
<tr>
<td>Gastroscopy</td>
<td>82</td>
</tr>
<tr>
<td>Flexible sigmoidoscopy</td>
<td>23</td>
</tr>
<tr>
<td>Other investigations</td>
<td>6</td>
</tr>
<tr>
<td>Unknown</td>
<td>2</td>
</tr>
</tbody>
</table>

Referral to diagnostic test time

The time from GP referral to test was recorded for 963 patients (all 655 of those referred Straight to Test, and 308 out of the 319 initially referred to an outpatient appointment). These average waiting times are detailed in Table 6 below:

Table 6: Referral to diagnostic test time

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Average time (days)</th>
<th>Standard Deviation</th>
<th>Range (days)</th>
<th>% of investigations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Within 21 days</td>
</tr>
<tr>
<td>STT alone</td>
<td>655</td>
<td>14.8</td>
<td>5.6</td>
<td>3-56</td>
<td>92</td>
</tr>
<tr>
<td>Overall referrals</td>
<td>963</td>
<td>17.6</td>
<td>8.5</td>
<td>3-100</td>
<td>78</td>
</tr>
</tbody>
</table>

Table 6 illustrates GP referral to diagnostic test for patients referred via the STT was shorter than for the overall cohort. For those who were diagnosed with cancer, the average time from referral to test was 16.9 days (SD 6.5 days, range 5-33).
Confirmed diagnosis
Confirmed diagnoses are shown in Table 7. The percentages shown in the table are of the 1,020 virtual clinical referrals with known outcome. There were 60 patients (6%) diagnosed with a colorectal cancer, and 175 (17%) with adenomatous polyps.

Table 7: Confirmed Diagnoses

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Number (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colorectal cancer</td>
<td>60 (6)</td>
</tr>
<tr>
<td>Adenomas</td>
<td>175 (17)</td>
</tr>
<tr>
<td>Inflammatory bowel disease/ ulcerative colitis</td>
<td>33 (3)</td>
</tr>
<tr>
<td>Diverticulosis</td>
<td>229 (22)</td>
</tr>
<tr>
<td>Other</td>
<td>92 (9)</td>
</tr>
</tbody>
</table>

Staging data were incomplete, though of the 50 cancers with radiological staging, 18 (36%) were early stage T1 or T2. This is a slightly lower than national average.

Conclusions
The National Cancer Waiting Times Monitoring Dataset (NCWTMDS) indicates that for the 2WW referrals, there is a median time from referral to seeing a specialist of 10 days and from first seeing a specialist to diagnosis of 34 days. Using this national evidence as a comparator, the Wirral project has accelerated the time to diagnosis and also removed a significant number of initial out-patient clinic appointments that were not required.
Improving diagnostic pathways for patients with suspected colorectal cancer – Final report v1.0

Background
The aim of this project was to provide a direct access endoscopy services for patients with colorectal symptoms, who do not fulfil the 2WW referral criteria. The endoscopies were performed by the organisation In Health Group, outside of Peterborough Hospitals. The remit was to speed up the pathway to a definitive colorectal diagnosis without imposing an unmanageable call on hospital endoscopy services.

Data analysis
A contemporaneous comparison was made with the neighbouring trusts in Cambridge, Huntingdon and Welwyn Garden City in terms of aggregate numbers of tests. In addition, individual data on 100 colorectal cancer patients diagnosed in Peterborough were compared with the corresponding data on 75 patients diagnosed in Cambridge.

Table 8 shows the referral routes of the Cambridge and Peterborough patients. The sources were similar except for the higher proportion of GP non-two-week wait referrals in Peterborough (11%) and Cambridge (3%). Around 40% in both areas were 2WW referrals and more than 20% in both were emergencies.

The patients were of similar ages in each area, with mean age 74 years (SD 11) in Peterborough and 72 years (SD 12) in Cambridge. However, the sex distribution differed. In Peterborough 53 (53%) of the patients were female, whereas in Cambridge, 25 (33%) were female.

Table 8 also shows the times from referral to diagnosis by referral source in the two areas - times were on average considerably shorter in Peterborough, and the variability in time to diagnosis was lower in Peterborough. In terms of the burden on resources, as one might expect the annual hospital colonoscopy rates were considerably lower for Peterborough than for neighbouring areas; 7.7 per 1,000 population compared to 13.0 per 1,000 in Huntingdon, 10.0 per 1,000 in Cambridge and 14.4 per 1,000 in King’s Lynn. Even adding the private ACE programme endoscopies, the rate in Peterborough was 11.5 per 1,000. Thus, the project has not noticeably added to the burden of endoscopic investigations.

**Table 8: Average (SD) times from referral to diagnosis, by referral source**

<table>
<thead>
<tr>
<th>Referral source</th>
<th>Peterborough</th>
<th>Cambridge</th>
</tr>
</thead>
<tbody>
<tr>
<td>2WW</td>
<td>46 (32)</td>
<td>71 (125)</td>
</tr>
<tr>
<td>Screening</td>
<td>45 (34)</td>
<td>23 (12)</td>
</tr>
<tr>
<td>Emergency</td>
<td>33 (21)</td>
<td>63 (118)</td>
</tr>
<tr>
<td>GP (not 2WW)</td>
<td>67 (37)</td>
<td>43 (51)</td>
</tr>
<tr>
<td>Other</td>
<td>71 (43)</td>
<td>53 (74)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>49 (34)</strong></td>
<td><strong>61 (109)</strong></td>
</tr>
</tbody>
</table>

For the 147 cases with staging data, 82% were stage III or worse (Table 9). There was no significant difference between Peterborough (85%) and Cambridge (77%). However, there was a significant difference in stage by source of referral (p = 0.002), with the lowest proportion of stage III or worse (52%) in the screening referrals and the highest (91%) in the emergencies and two-week wait.
### Table 9: Percentage of cancers diagnosed at stage III or worse, by referral source

<table>
<thead>
<tr>
<th>Referral source</th>
<th>Peterborough</th>
<th>Cambridge</th>
</tr>
</thead>
<tbody>
<tr>
<td>2WW</td>
<td>91</td>
<td>90</td>
</tr>
<tr>
<td>Screening</td>
<td>73</td>
<td>25</td>
</tr>
<tr>
<td>Emergency</td>
<td>89</td>
<td>93</td>
</tr>
<tr>
<td>GP (not 2WW)</td>
<td>80</td>
<td>50</td>
</tr>
<tr>
<td>Other</td>
<td>75</td>
<td>60</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>85</strong></td>
<td><strong>77</strong></td>
</tr>
</tbody>
</table>

**Conclusion**

In summary, this project confirms that STT services provide an accelerated route to reaching a confirmed diagnosis – overall times were on average considerably shorter in Peterborough. The variability of times to diagnoses were considerably shorter in Peterborough too. A significant finding was noted in the percentage of cancers diagnosed at late stage, with screening referrals regarded as the most effective route to detect cancer at an earlier stage. The average referral to diagnosis time of 67 days is an improvement on the national expected time for non-two-week wait patients.
**Background**

The aims of this project implemented by Wigan Borough CCG and Wrightington, Wigan and Leigh NHS Foundation Trust was to offer a STT service for patients who meet the 2WW referral criteria, and include a hospital based triage service by the colorectal specialist team.

**Data analysis**

Data were available on 1,485 patients of whom 1,388 were referred by their general practitioner (the remainders were referred on by hospital consultants in other departments or following emergency admission. Referrals took place between 1st April 2015 and 23rd March 2016.

In considering the 1,388 2WW GP referrals - of these, 605 (44%) were male and 783 (56%) female. The average age was 68 (SD 13, range 20-98). For 8 (< 1%) subjects, the referral criteria were judged not to be met, but they were all given an appointment so they are retained in the reporting below.

A first test date is recorded in the dataset for 1251 (90%) of the 1388 patients referred. Following the triage, 782 patients (56%) have proceeded straight to their first test without the requirement to attend an initial out-patient clinic appointment. The average waiting time from referral to the first test date is 12 days (90th percentile 17 days) (SD =7days). For those patients who were required to attend an initial out-patient clinic, the average waiting time is 22 days (90th percentile 36 days) (SD =16 days). Colonoscopy (648) and Flexi-sigmoidoscopy (131) were the main diagnostic tests offered as part of the STT.

A number of patients presented with more than one symptoms but for the purposes of the analysis the cases were grouped as presented in Table 10.

**Table 10: Presenting symptoms and times to test**

<table>
<thead>
<tr>
<th>Presenting symptom</th>
<th>Number (%)</th>
<th>Mean (SD) days from referral to test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rectal bleeding (no mass)</td>
<td>167 (12)</td>
<td>15 (12)</td>
</tr>
<tr>
<td>Change in bowel habit (no mass)</td>
<td>499 (36)</td>
<td>15 (9)</td>
</tr>
<tr>
<td>Rectal bleeding and CIBH* (no mass)</td>
<td>257 (19)</td>
<td>15 (13)</td>
</tr>
<tr>
<td>Palpable abdominal or rectal mass</td>
<td>119 (9)</td>
<td>18 (13)</td>
</tr>
<tr>
<td>Other including iron deficiency **</td>
<td>343 (25)</td>
<td>-</td>
</tr>
<tr>
<td>None coded</td>
<td>3 (&lt; 1)</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>1,388 (100)</td>
<td>16 (13)</td>
</tr>
</tbody>
</table>

*CIBH = Change in Bowel Habit

**223 cases presented with iron deficiency**

In 850 of the 1,005 (84.5%) available records it was noted that patients had experienced their symptoms for more than 6 weeks when presenting in primary care.

There were 72 cancer diagnoses (5%). Of these, 67 were of colorectal cancer (including anal canal); other cancers diagnosed included of the small intestine, upper GI tract and lung.

---

**A68 - NHS Wigan Borough CCG & Wrightington, Wigan & Leigh NHS FT**

**Background**

The aims of this project implemented by Wigan Borough CCG and Wrightington, Wigan and Leigh NHS Foundation Trust was to offer a STT service for patients who meet the 2WW referral criteria, and include a hospital based triage service by the colorectal specialist team.

**Data analysis**

Data were available on 1,485 patients of whom 1,388 were referred by their general practitioner (the remainders were referred on by hospital consultants in other departments or following emergency admission. Referrals took place between 1st April 2015 and 23rd March 2016.

In considering the 1,388 2WW GP referrals - of these, 605 (44%) were male and 783 (56%) female. The average age was 68 (SD 13, range 20-98). For 8 (< 1%) subjects, the referral criteria were judged not to be met, but they were all given an appointment so they are retained in the reporting below.

A first test date is recorded in the dataset for 1251 (90%) of the 1388 patients referred. Following the triage, 782 patients (56%) have proceeded straight to their first test without the requirement to attend an initial out-patient clinic appointment. The average waiting time from referral to the first test date is 12 days (90th percentile 17 days) (SD =7days). For those patients who were required to attend an initial out-patient clinic, the average waiting time is 22 days (90th percentile 36 days) (SD =16 days). Colonoscopy (648) and Flexi-sigmoidoscopy (131) were the main diagnostic tests offered as part of the STT.

A number of patients presented with more than one symptoms but for the purposes of the analysis the cases were grouped as presented in Table 10.

**Table 10: Presenting symptoms and times to test**

<table>
<thead>
<tr>
<th>Presenting symptom</th>
<th>Number (%)</th>
<th>Mean (SD) days from referral to test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rectal bleeding (no mass)</td>
<td>167 (12)</td>
<td>15 (12)</td>
</tr>
<tr>
<td>Change in bowel habit (no mass)</td>
<td>499 (36)</td>
<td>15 (9)</td>
</tr>
<tr>
<td>Rectal bleeding and CIBH* (no mass)</td>
<td>257 (19)</td>
<td>15 (13)</td>
</tr>
<tr>
<td>Palpable abdominal or rectal mass</td>
<td>119 (9)</td>
<td>18 (13)</td>
</tr>
<tr>
<td>Other including iron deficiency **</td>
<td>343 (25)</td>
<td>-</td>
</tr>
<tr>
<td>None coded</td>
<td>3 (&lt; 1)</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>1,388 (100)</td>
<td>16 (13)</td>
</tr>
</tbody>
</table>

*CIBH = Change in Bowel Habit

**223 cases presented with iron deficiency**

In 850 of the 1,005 (84.5%) available records it was noted that patients had experienced their symptoms for more than 6 weeks when presenting in primary care.

There were 72 cancer diagnoses (5%). Of these, 67 were of colorectal cancer (including anal canal); other cancers diagnosed included of the small intestine, upper GI tract and lung.
Table 11 below shows the presenting symptoms for cancers and non-cancer diagnoses.

**Table 11: Presenting symptoms for cancers and non-cancer diagnoses**

<table>
<thead>
<tr>
<th>Presenting symptom</th>
<th>Number (%)</th>
<th>Non-cancer</th>
<th>Cancer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rectal bleeding (no mass)</td>
<td>162 (12)</td>
<td>5 (7)</td>
<td></td>
</tr>
<tr>
<td>Change in bowel habit (no mass)</td>
<td>486 (37)</td>
<td>13 (18)</td>
<td></td>
</tr>
<tr>
<td>Rectal bleeding and CIBH (no mass)</td>
<td>246 (19)</td>
<td>11 (15)</td>
<td></td>
</tr>
<tr>
<td>Palpable abdominal or rectal mass</td>
<td>103 (8)</td>
<td>16 (22)</td>
<td></td>
</tr>
<tr>
<td>Other including iron deficiency</td>
<td>316 (24)</td>
<td>27 (38)</td>
<td></td>
</tr>
<tr>
<td>None coded</td>
<td>3 (&lt; 1)</td>
<td>0 (0)</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,316 (100)</strong></td>
<td><strong>72 (100)</strong></td>
<td></td>
</tr>
</tbody>
</table>

CIBH = Change in Bowel Habit

The most common symptom was change in bowel habit, with 56% (732) of non-cancer and 33% (24) of cancer cases presenting with this symptom. The presence of a palpable abdominal or rectal mass showed the highest association with eventual cancer diagnosis - 13% (16/119) of patients presenting with this symptom received a cancer diagnosis.

**Conclusion**

In summary, this project confirms that STT services provide an accelerated route to the first test following a 2WW referral. The average time from decision to refer to first test was shortened by at least 10 days. The average time from referral decision to diagnosis for cancers was 37 days (SD 36). This suggests a reduction in time to diagnosis in comparison with the cancer waiting time data.
This project was established in June 2015 and introduced direct referral from GPs to endoscopy – referred to as the DABO (Direct Access BowelOscopy) or DAPS (Direct Access Proctology Service) – for patients presenting with rectal bleeding. The service has been sustained to date.

Referral proformas are completed by GPs and submitted for triage by the CReSS (Croydon Referral Support Service), who allocate patients to the appropriate investigation.

Data analysis of the project remains ongoing and details will be available on the ACE website in due course.

To date, this project has primarily comprised a qualitative audit of the existing colorectal diagnostic pathways which are in place in 13 trusts across South West England. Among these, North Bristol NHS Trust is considered to be an example to follow in terms of moving towards straight-to-test.

A project overview and other materials are available at: http://www.swscn.org.uk/networks/cancer/projects/colorectal-pathway/
Background
This project was established in April 2015 and intended to implement a straight-to-test colonoscopy service for patients with suspicious colorectal cancer symptoms referred on a 2WW pathway. Patients under 40 or over 75 were excluded; others were triaged based on their presenting symptoms (i.e. administrative rather than clinical triage) to either colonoscopy, oesophago-gastro-duodenoscopy or colonoscopy, flexible sigmoidoscopy, or an outpatient appointment.

Data Analysis
Data were available for 2,791 patients who were first seen between April 2015 and March 2016. In addition, there were data for 1,557 patients who were first seen between April 2013 and March 2014 (i.e. a year before the introduction of the new pathway), and this cohort has been used as a comparator.

All inaccurate records were eliminated from the analysis. A remaining 1,554 patients from the 2013-14 (baseline) data had been referred via the 2WW pathway. Of the remaining 2,769 patients from the 2015-16 (intervention) data, 1,949 had been seen via the 2WW pathway, 96 had been classified as routine, and 724 as urgent. The following analysis relates only to those patients on the 2WW pathway.

Full dates of birth were provided for the baseline data, and year of birth for the intervention data. Assuming, for the latter, birthdays of 1st July, the age profiles were broadly similar with mean 69 years (SD 12.4) in both baseline and intervention periods. Data on gender were not available.

First patient contact detail
Table 12 illustrates details of patients’ first contact at the Trust (first test and out-patient appointments), for both baseline and the intervention periods. Data were missing on appointment type for 19 (1.2%) cases in the baseline period and 5 (0.3%) in the intervention period.

<table>
<thead>
<tr>
<th>Table 12: First contact types in baseline and intervention periods</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First appointment type</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Colonoscopy</td>
</tr>
<tr>
<td>Flexible sigmoidoscopy</td>
</tr>
<tr>
<td>Outpatient</td>
</tr>
<tr>
<td>Unknown*</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>

*Unknown included low number of inpatient cases

The most striking difference between the two periods was the higher rate of colonoscopy and lower rate of flexible sigmoidoscopy in the intervention period.

The proportion of patients receiving a flexible sigmoidoscopy as their first appointment (many of whom would have gone on to a subsequent colonoscopy) fell from more than 69% to less than 5% while 40% of patients had a colonoscopy first (0.6% in the baseline period). An increased number attended an outpatient clinic as their first contact (56% compared to 30% previously). Considering the 1,944 appointments in the intervention period with a known appointment type, 862 patients (44%) did not require an outpatient appointment as a result of the STT service.

Basis of diagnosis for cancers
During the baseline period, 144 cancers were detected (9% of patients). This compares to 112 cancers (6% of patients) during the intervention period. A greater proportion of the cancers in the intervention period were diagnosed clinically (Table 13).

**Table 13: Basis of diagnosis for in the baseline and intervention periods**

<table>
<thead>
<tr>
<th>Basis of diagnosis</th>
<th>Number (%)</th>
<th>Baseline</th>
<th>Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical investigation</td>
<td></td>
<td>38 (26)</td>
<td>70 (62.5)</td>
</tr>
<tr>
<td>Histology</td>
<td></td>
<td>106 (74)</td>
<td>42 (37.5)</td>
</tr>
<tr>
<td>Total cancers diagnosed</td>
<td></td>
<td>144 (100)</td>
<td>112 (100)</td>
</tr>
</tbody>
</table>

**Time from referral to first appointment for all cases**

Table 14 shows the times from referral to first appointment. The mean number of days from referral to first appointment was slightly higher in the intervention period (11.7 days) than in the baseline period (11.2 days). However this reduced during the course of the intervention period.

**Table 14: Times from referral to first appointment**

<table>
<thead>
<tr>
<th>Period</th>
<th>Days from referral to first appointment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
</tr>
<tr>
<td>Baseline (April 2013-March 2014)</td>
<td>11.2</td>
</tr>
<tr>
<td>Intervention (from date of referral):</td>
<td></td>
</tr>
<tr>
<td>April-June 2015</td>
<td>12.3</td>
</tr>
<tr>
<td>July-September 2015</td>
<td>11.9</td>
</tr>
<tr>
<td>October-December 2015</td>
<td>11.4</td>
</tr>
<tr>
<td>January-March 2016</td>
<td>10.3</td>
</tr>
<tr>
<td>Whole intervention period</td>
<td>11.7</td>
</tr>
</tbody>
</table>

**Time from referral to diagnosis for cancer cases**

Table 15 records the time from referral to cancer diagnosis, which fell significantly from baseline to intervention period. The date of diagnosis was absent for 3 of the diagnosed cancers during both the baseline and the intervention period. However there was a noticeable reduction in the period from referral to cancer diagnosis. In addition, there was a considerable reduction in the variability of time to diagnosis.

**Table 15: Time from referral to diagnosis**

<table>
<thead>
<tr>
<th>Period</th>
<th>Days from referral to diagnosis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
</tr>
<tr>
<td>Baseline (April 2013-March 2014)</td>
<td>49.2</td>
</tr>
<tr>
<td>Intervention (April 2015-March 2016)</td>
<td>34.7</td>
</tr>
</tbody>
</table>

**Conclusion**

As previously stated, the NCWTMDS indicates that for the 2WW referrals, there is a median time from referral to first seeing a specialist of 10 days and from first seeing a specialist to diagnosis of 34 days.\(^1\) In summary, this project demonstrates strong evidence that implementation of a STT service reduces the time from referral to first test and onwards to confirmed diagnoses. The service is now embedded and sustained in the Trust.
Summary of Key Findings and Implications

The cluster generated informative data and intelligence from ten NHS projects testing the introduction of STT pathways. Whilst the actual interventions vary slightly, straight-to-endoscopic testing for appropriate 2WW referrals following telephone triage is the most common approach implemented. The following key findings and implications have been recognised by the colorectal projects in developing their STT pathway approach:

Shortened diagnostic intervals
The results vary slightly, but they are sufficiently consistent to indicate that the diagnostic interval is shortened in time – from GP referral to first diagnostic test and onwards to a confirmed diagnosis by around 1-2 weeks. This acceleration of times to first test and onwards to a confirmed diagnosis are relatively small for the most part, as the comparison in the main is with the 2WW referrals. It is likely that if the eligibility is wider, as for example in the Peterborough, Croydon and London projects, there is potential for a greater advance in the time of first test and diagnosis confirmation.

There was also a considerable reduction in the variability of time to cancer diagnosis following STT introduction. For example, at the University Hospital of Morecambe Bay waiting times for the 2WW referrals awaiting colonoscopy, standard deviation reduced from 42.2 days to 17.8 days, and the 90th percentile fell from 97 days to 63 days.

Out-patient appointment impact
A major benefit of the STT pathway is the removal of the initial outpatient clinic appointment. This was estimable from four of the projects, with the results shown in Table 16.

<table>
<thead>
<tr>
<th>Project</th>
<th>Referral population</th>
<th>Referrals</th>
<th>Outpatient clinic appointments not required (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UCL Partners (A22) (Whipps Cross)</td>
<td>Routine</td>
<td>1,318</td>
<td>1,031 (78)</td>
</tr>
<tr>
<td>Wirral (A28)</td>
<td>2WW</td>
<td>1,020</td>
<td>655 (65)</td>
</tr>
<tr>
<td>Wigan (A68)</td>
<td>2WW</td>
<td>1,388</td>
<td>782 (56)</td>
</tr>
<tr>
<td>Morecambe Bay (A80)</td>
<td>2WW</td>
<td>1,944</td>
<td>862 (44)</td>
</tr>
<tr>
<td>Overall</td>
<td>Mixed</td>
<td>5,670</td>
<td>3,330 (59)</td>
</tr>
</tbody>
</table>

While the percentages vary considerably, it is apparent that a majority of outpatient appointments can be removed (average circa 59%). It would also appear that the potential for removing such appointments is strongest for the routine rather than for the 2WW referrals.

For some patients an initial out-patient consultation remains entirely appropriate, benefiting from a face-to-face out-patient clinic consultation, before any invasive investigation decisions are confirmed. Some patients may present with complex clinical conditions, are frail and elderly, hard of hearing or have other disabilities; in such instances all are offered an outpatient clinic appointment in reserved slots within the maximum 2WW standard. (Note – the Wirral project have commented that since introducing STT, their colorectal outpatient clinic has reduced its ‘Did Not Attend’ rate and is also seeing more complex, highly dependent patients, necessitating the length of the appointment slots to be increased.)
In eliminating the first outpatient appointment it has freed up consultant and associated clinical and nursing staff resource to readjust job plans to include other sessional arrangements, providing a real financial benefit and incentive to sustain the pathway changes.

**Improving operational pathway management & quality**

The STT approach is reliant on high quality GP referrals, based on the use of clinical decision support tools that facilitate appropriate referral of patients onto the colorectal diagnostic pathway. This requires strong collaboration across the primary and secondary interface to agree the appropriate referral criteria aligned to the NICE 2015 guidance (NG12), educate GPs in how to understand and apply the criteria and use any required technology such as electronic referral and booking systems to streamline the referral processes.

The STT service requires strong clinical leadership with designated responsibility to direct the specialist colorectal clinical and administrative team, especially during the implementation phase of the new pathway arrangements. It essentially requires dedicated time as part of the overall agreed job plan for appropriate members of the team to triage all referrals, using a locally agreed algorithm, to the most appropriate investigation or appointment. Using such an agreed triage protocol, the University Hospitals of Morecambe Bay has altered its first test option from flexible sigmoidoscopy to colonoscopy, ensuring patients receive the optimum ‘best test first’, thereby reducing variation and improving patient experience.

The STT pathway has proved to be an extremely flexible model as minimal operational set up is required. No outpatient clinic rooms, clinic preparation, clinic administrative or nursing staff are required. This enables the service to respond flexibly to the increasing demand for colorectal specialist opinion and the inevitable peaks in demand.

Some of the ACE projects have reported that triaging patients to radiology has been more challenging than endoscopy from a clinical perspective. Local radiologists are keen for patients to attend an outpatient clinical assessment prior to booking any radiological investigation, usually CT colonography is considered the most appropriate first investigation. A local protocol and clinical guideline agreed by the colorectal multi-disciplinary team will determine this arrangement.

**Improving patient & GP referral experience**

One of the most positive benefits the ACE projects have reported has been the high level of satisfaction and experience feedback, from both referring GPs and patients. These benefits include, the avoidance of the initial out-patient appointment, the accelerated time to diagnosis and consequent reduced anxiety and distress for those patients who transpire not to have cancer.

Analysis of patient satisfaction from over 800 returned questionnaires at the Wirral project indicate that 88% of patients are very satisfied overall with the STT service pathway. Similarly at the Barts Health project at Whipps Cross 94% of patients thought the triage service was very convenient, with 79% preferring the telephone triage to attending the out-patient clinic.

Shared decision-making with the patient is a pre-requisite of the STT triage service with details gathered on additional comorbidities, social support and sedation risk, all helping to improve both the management of and compliance with bowel preparation. Patients are also benefiting from an indirect counselling service as the algorithm includes information on wider health determinants such as health promotion, diet, lifestyle advice, risks and symptom management.
Improving performance management

If a STT pathway is considered appropriate for the 2WW referrals, the appropriate first test must be performed within the mandated two week waiting period. The current national Cancer Waiting Times Monitoring Guidance\textsuperscript{16} states that the 2WW standard is only achieved when the patient is first seen and NOT first assessed at either a ‘virtual’ clinic or via a telephone triage arrangement. On this basis, implementing a STT pathway for 2WW referrals is extremely challenging.

Given the current constraints in endoscopy units, the ACE projects have been challenged in achieving the required investigation within the 2WW standard – they are more likely to be scoped by day 16/17, with a confirmed biopsy result received a maximum 10 days later. This implication should be considered by the relevant cancer policy teams – (see Recommendation 6) - that introducing STT within current constrained endoscopy units, may mean the 2WW standard is breached, thus failing to incentivise the healthcare system trying to implement the pathway changes. This should not be considered a failure, rather, that a prospective confirmed diagnosis (following histology) is well within the planned early diagnosis metric of 28 days, and an essential enabler in achieving the 62-day treatment standard when a cancer is detected.
Recommendations

These recommendations are based on the data analysis provided by the Department of Health Policy Research Unit and the intelligence and experience gathered by the ACE projects during the course of their STT pathway implementation:

1. **Given the beneficial evidence and intelligence gathered by the ACE projects, STT pathways are encouraged.** The recommended approach by the majority of the projects is the triage-STT operational arrangement and this seems to be the favoured option of the professional groups.

2. **Local evidence should initially be gathered to support the implementation of a rapid colorectal diagnostic pathway.** Undertaking an initial simulation exercise to audit and evaluate how many patients are suitable to go STT, and calculate the required full diagnostic capacity (dedicated slots, workforce etc..) is essential. Whilst acknowledging the limitations of ultimately diagnosing cancer via the 2WW referral route, this define and manageable cohort represents a good place to start.

3. **The STT service requires the input of an appropriately trained and experienced senior decision maker** with strong clinical leadership skills to manage the specialist colorectal team. It requires dedicated time as part of the overall agreed job plan for appropriate members of the team to triage and navigate all referrals, using a locally agreed algorithm to the most appropriate investigation or appointment.

4. **The STT triage algorithm needs to confirm the indication for investigation, fitness and willingness to have a definitive test.** If there is more than one queue for diagnostic investigation, then **urgency** could also be part of the triage process. The capacity for each of the investigatory options should be nuanced locally, recognising we should be scoping appropriately and smartly but not everybody. The concept must encapsulate a clinically-sound, locally-agreed algorithm with an option available for face to face outpatient appointment prior to the investigation, if appropriate and developed in line with any further emerging evidence.

5. **There is an essential prerequisite to engage and collaborate with referring GPs and primary care teams to get high risk patients to diagnostics sooner.** The use of clinical decision support tools are encouraged and a standardised, electronic referral proforma involving the national Electronic Referral Service as outlined by the NHS Standard Contract should include all available information to inform a decision on the required further investigation.

6. **There should be a threshold for the proportion of patients that go STT – rather than expecting all to be suitable – which will help to incentivise the system promoting STT.** The colorectal ACE projects suggest that approximately 60% of the 2WW referrals are suitable to go ‘Straight to Test’. However, we need to be careful about over-promoting colonoscopy acknowledging that CT colonography is a more appropriate test option for some patients.

7. **There should be consideration by the cancer policy teams that if the telephone triage assessment (usually undertaken on day 2 or 3) results in a patient going straight to a first diagnostic test, the day of the telephone assessment should be considered the first consultation in meeting national cancer waiting times performance standards.** It is anticipated the performance standard that all 2WW referral patients ‘must be seen by a cancer specialist within 2 weeks’ will be removed given the implementation of the 28 day faster diagnosis standard.
8. The STT criteria should be based on the intent to triage all patients to first investigation (prior to an initial out-patient attendance) in as timely a way as possible, with sensitive discussion amongst clinical professions required to alleviate fears of ‘opening the flood gates’. It is likely that if the eligibility for entry onto the STT pathway is wider, beyond the 2WW cohort, as in the case of the Peterborough, Croydon and London ACE colorectal projects, there is potential for a greater advance in the time to diagnosis. If localities are able to provide this extended service it should be encouraged as there is evidence in the analysis from Peterborough that there is no noticeable increase in demand for endoscopic investigation.

9. There must be a clear pathway for managing patients post-investigation. Those patients identified with cancer should have immediate staging investigations, their diagnosis confirmed at MDT discussion, followed by an out-patient appointment to discuss definitive diagnosis and treatment plans. It would be considered good practice for each patient to meet a colorectal clinical nurse specialist (CNS) when the diagnosis is suspected at colonoscopy, mindful of the effects of sedation.

10. It is anticipated that release of doctors and specialist nurses from running outpatient clinics will potentially enable redistribution to other areas, such as theatre lists and endoscopy. It is acknowledged that ‘freeing up’ clinicians to provide yet more endoscopy will only work if capacity in endoscopy nurses, room availability and all other endoscopy resources are also available.

11. A unified approach is required across the NHS, working in collaboration with the NHS National Cancer Programme to develop the required endoscopy capacity and workforce. The Cancer Strategy 2015–2020 identifies some promising solutions, including additional investment, Health Education England developing a national training scheme for non-medical endoscopists, and a pledge to train an additional 200 more endoscopists by 2018. The ACE Programme endorses these commitments, acknowledges the pace and scale will be determined by the available budget, yet reiterates it is essential the strategy recommendations are implemented without delay.
Resources

The following list of on-line resources have been developed by various stakeholders and teams associated with the ACE Programme. The list includes STT pathways, referral protocols, symptom criteria, referral pro formas, telephone scripts for triage teams to contact patients, job descriptions for triage nurses etc., They are shared on the basis of supporting further implementation and spread of STT pathways amongst colorectal teams.

1. **Virtual Clinic Model.** The virtual clinic model (based on the STT service at the Wirral University Teaching Hospital NHS FT) relies on the completion of a decision based customised referral form agreed between the referring GPs and hospital-based colorectal team. Each day the nominated duty consultant/CNS reviews the GP referral documentation and further assesses each patient as to the most appropriate diagnostic test. Endoscopy pre-assessment is then followed up separately by the endoscopy unit via a telephone call with each patient. This includes a full risk assessment of each patient’s ability to take the required bowel medication at home prior to the booked investigation date. The prescribed bowel preparation medication is then posted directly to each patient’s home address.

2. **Colorectal Telephone Assessment Pathway (CTAP).** The CTAP model (based on the service at Guy’s & St Thomas’ NHS FT) is based on a clinical assessment of the GP referral and further questions and prompts by the CNS during a telephone clinic appointment. This also includes the first stage of the endoscopy pre-assessment, further completed by the endoscopy team via a second telephone call. Patients with comorbidities that are deemed high risk are advised when to stop other medication and any management of anticoagulation therapy. The most appropriate outcome/test for the patient is then agreed by the colorectal team and booked, in accordance with an agreed protocol.

3. **Referral Protocol to the most appropriate colorectal investigation.** A protocol agreed between primary and secondary care (based on the service at Guy’s & St Thomas’ NHS FT) used to decide on the most appropriate STT investigation for each patient.

4. **How to Guide – introduction of a Colorectal Telephone Assessment Service.** Harriet Watson, Colorectal Nurse Consultant has produced a helpful ‘How to Guide’ on the introduction of a CTAP service for the triage and assessment of colorectal referrals available here

5. **Triage Criteria.** A copy of the clinically agreed guidelines to triage patients straight to the most relevant investigation or out-patient clinic appointment as appropriate, used by the University Hospitals of Morecambe Bay can be found here

6. **GP Referral Proforma.** A copy of the 2WW referral proforma used by GPs across South Cumbria to refer urgent patients with suspicious symptoms of lower GI cancer can be found here

7. **Rectal Bleed Pathway.** A copy of the Primary Care Rectal Bleed Pathway used by GPs across Croydon can be found here

8. **Direct Access to Flexible Sigmoidoscopy Pathway.** A copy of a direct access to flexi sig pathway is available here for GPs to refer patients to the Homerton University Hospitals to assist them with the management of patients under 55 years of age with bright rectal bleeding.

9. **Direct access GP referral proforma.** A copy of the direct access referral form for flexi sig is available here for GPs to refer patients to the Homerton University Hospitals.
10. **Patient Information Leaflet.** A copy of the information leaflet given to patients who are referred for colonoscopy at the Homerton University Hospital is available [here](#).

11. **Competency list for CNS performing Colorectal Telephone Assessment.** A template detailing the skills and competencies of a clinical nurse specialist undertaking STT telephone triage is available [here](#).

12. **Bowel Prep service - Morecambe Bay.** (To follow in due course – and will appear in the colorectal cancer pathway resources section of the [ACE website](#))

13. **Use of the FIT in symptomatic presenting patients.** A flow chart from the colorectal service at the Nottingham University Hospitals NHS Trust detailing the application of the FIT in appropriate patients is available [here](#).
References

2 c) Watson H. A Colorectal Telephone Assessment / Straight to Test Pathway (CTAP) for the Initial Assessment of Colorectal Referrals. Guy's and St Thomas' NHS Foundation Trust, November 2014.
Contact ACE
If you have any queries about ACE, please contact the team at: ACEteam@cancer.org.uk
In addition, you can visit our webpage: www.cruk.org/ace where we will publish news and reports.

The ACE Programme
Accelerate, Coordinate, Evaluate