

Quality and Productivity: Proven Case Study

Improving diagnosis and quality of care for people with IBS across Somerset

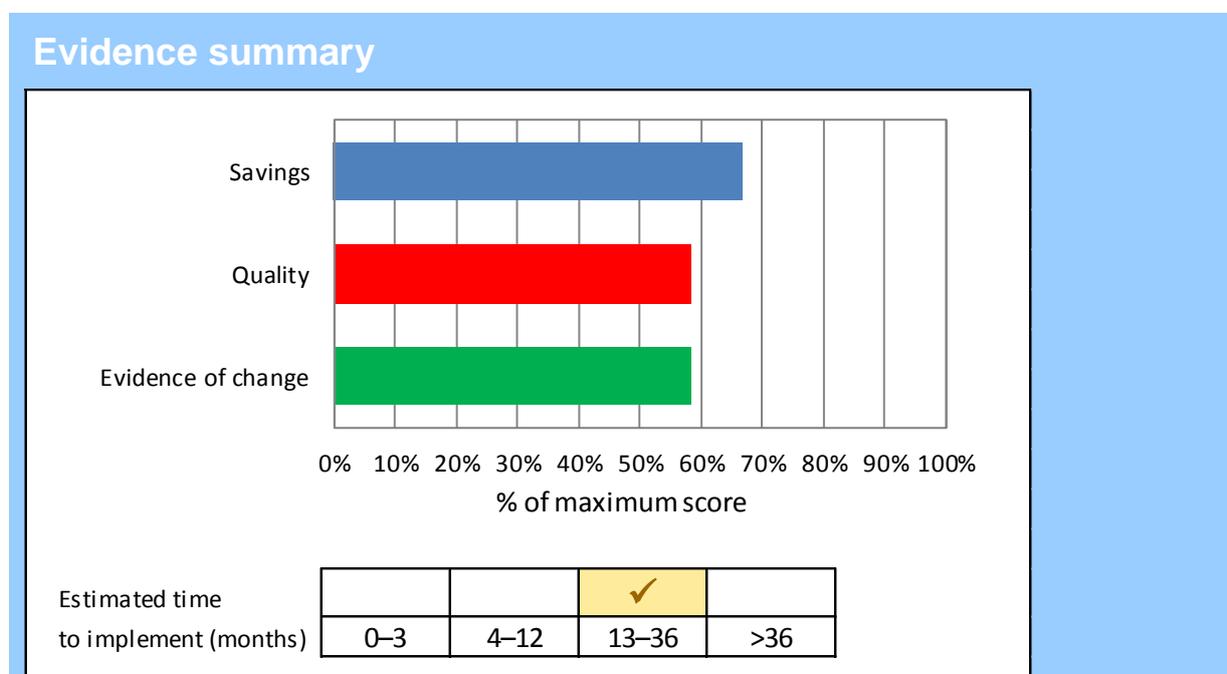
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Sharing good practice: What are 'Proven Quality and Productivity' case studies?

The NICE Quality and Productivity collection provides users with practical case studies that address the quality and productivity challenge in health and social care. All examples submitted are evaluated by NICE. This evaluation is based on the degree to which the initiative meets the Quality and Productivity criteria: savings, quality, evidence and implementability. The first three criteria are given a score which are then combined to give an overall score. The assessment of the degree to which this particular case study meets the criteria is represented in the summary graphic below.

Proven Quality and Productivity examples are case studies that show evidence of implementation and can demonstrate efficiency savings and improvements in quality.



Details of initiative

Purpose	To improve the diagnosis of irritable bowel syndrome (IBS) and the quality of care provided for people with IBS across Somerset.
Description (including scope)	<p>In 2011, a multidisciplinary group including representatives from primary and secondary care assessed the implementation of NICE's IBS guidance (NICE guideline CG61) within Somerset. They examined current arrangements for diagnosis, investigation and management of IBS and explored a more patient-focused solution. The group identified cost savings by reducing outpatient activity and investigations within secondary care gastroenterology clinics (in Taunton and Somerset NHS Foundation Trust and Yeovil District Hospital NHS Foundation Trust) of people aged 16–45 with no red flag symptoms and likely IBS. The cost savings were used to fund faecal calprotectin (FC) testing through GPs and a specialist gastroenterology dietetic community service.</p> <p>The initiative aimed to:</p> <ol style="list-style-type: none">1. Deliver county-wide education sessions for GPs led by a gastroenterology consultant and/or a specialist dietitian to:<ul style="list-style-type: none">• Support a positive diagnosis of IBS• Provide the skills to manage IBS within primary care through a 'diagnosis of IBS' algorithm in a new pathway app for GP desktops.2. Offer GPs FC testing to exclude inflammatory pathologies and prevent unnecessary secondary care referrals.3. Produce a second algorithm, 'management of IBS', as another pathway app for GP desktops across Somerset. This would help GPs provide symptom-based treatment within primary care and avoid referral to a dietitian for first-line intervention.4. Set up a specialist gastroenterology dietetic community clinic for non-red-flag people with IBS and intractable symptoms but normal blood tests and FC <50 µg/g, available to GPs and community-based healthcare professionals.5. Move the focus of IBS management away from medicalisation of the condition and to reduce secondary care referrals and invasive investigations. People with IBS empowered to manage their own condition. <p>The objectives of the initiative were to:</p> <ol style="list-style-type: none">1. Reduce referrals to secondary care gastroenterology services for people between 16 and 45 years with a low risk of inflammatory pathology.2. Follow NICE recommendations to deliver GP education sessions providing:<ul style="list-style-type: none">• knowledge and skills to make a positive diagnosis of IBS using Rome III criteria (Drossman and Dumitrascu 2006).• a pathway for first-line lifestyle and dietary management advice.3. Implement FC testing through GPs.

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	<ol style="list-style-type: none">4. Redistribute the money made available from reducing referrals to secondary care to providing treatment in a specialist gastroenterology dietetic community clinic.5. Encourage people with IBS to self-manage their symptoms with dietary intervention.
Topic	Digestive tract conditions; Diet, nutrition and obesity; Primary care management.
Other information	<p>Rome III criteria for diagnosing IBS were used, in accordance with international research on IBS.</p> <p>Immunodiagnostik ELISA test is used for FC testing. The FC result classification is:</p> <ul style="list-style-type: none">– FC <50 µg/g: managed within primary care– FC 51–150 µg/g: refer for a secondary care opinion (but not necessarily endoscopic investigation)– FC >150 µg/g: refer for investigations in secondary care.

Savings delivered

Amount of savings delivered	Data from the initiative, extrapolated from August 2014 suggested annual activity of 288 people who could be referred to the specialist gastroenterology dietetic community clinic, avoiding the costs of secondary care appointments and investigations. With a locally agreed outpatient unit cost of £287 this resulted in savings of £82,700 per annum. Secondary care investigation costs avoided were £279 per person resulting in savings of £80,300 per annum. In total £163,000 savings were achieved per annum.
Type of saving	A mixture of cash savings and improved productivity is expected from reduced referrals to secondary care (cost of investigations and outpatient activity).
Any costs required to achieve the savings	<p>Total costs required to achieve the savings were £55,600 per annum, which includes:</p> <ul style="list-style-type: none">• 1.0 whole time equivalent (WTE) specialist dietitian salary at £42,600 (AfC band 6);• 0.2 WTE administrator salary at £4,700 (AfC band 3);• There was an average of 144 people who had no red-flag symptoms and were FC tested. FC testing at £31 per test = £4,500;• patient information leaflets at £1,700;• non-recurring FODMAP training at £1,200 and non-recurring MSc allergy module training at £900 for the specialist dietitian. <p>Deducting costs required to achieve savings (£55,600) from savings (£163,000) delivers estimated annual savings of £107,400 for a population of about 540,000 in year 1. This is a saving of approximately £20,000 per 100,000 population per</p>

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annum.

Subsequent years show savings of £109,500 for a population of about 540,000. This is a saving of approximately £20,300 per 100,000 population per annum.

Programme budget Problems of the gastrointestinal system.

Supporting evidence None provided.

Quality outcomes delivered

Impact on quality of care or population health

Care has improved because FC testing for general practice is available, and a specialist dietetic-led gastroenterology clinic and countywide GP education into diagnosis are provided that had not been available before this initiative.

Impact on patients, people who use services and/or population safety

The August 2014 audit showed 94 people were FC tested in the pilot with the following results:

- Sixty-four people had levels <50 µg/g. Despite levels <50 µg/g, 13 people were still referred into secondary care where they had investigations. No gastrointestinal inflammation was found in any case.
- Nineteen people had levels 51–150 µg/g. Twelve people were referred to secondary care where they had investigations. One person was diagnosed with mild Crohn's disease and the other 11 people had normal findings.
- Eleven people had levels >150 µg/g. Nine of 11 people were referred to secondary care where they had investigations. Five people were diagnosed with ulcerative colitis or Crohn's disease, 3 people had normal colonoscopies and one had a normal computed tomography scan.
- The audit data indicated it is highly unlikely that people with low FC levels will be diagnosed with an inflammatory pathology. It was hoped this data would reinforce use of the initiative in the future.

Impact on patients, people who use services, carers, public and/or population experience

Between 30 April 2013 and 1 May 2014, 83 people completed specialist gastroenterology dietetic intervention. Outcomes were measured using a validated global symptom satisfaction questionnaire and showed statistically significant reduction of all symptoms.

- 65% respondents had satisfactory relief from their symptoms;
- secondary outcome data showed that 74% had an improved quality of life; respondents quotes included 'This diet has turned my life around';
- the most successful symptom reductions were for heartburn (86% of respondents noted improvement), abdominal pain (73% of respondents noted improvement), borborygmi (72%

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of respondents noted improvement) and urgency (69% of respondents noted improvement).

People were given advice about how to self-manage their condition after being discharged back to their GP.

Additional dietetic capacity allowed clinics to be set up in four locations across Somerset to reduce travel time for people and increase ease of access.

Supporting evidence	Between April 2014 and April 2015, there were 377 referrals to the specialist gastroenterology dietetic community clinic. After triage, 240 people were seen, eliminating inappropriate referrals and people who did not respond to activation letters. There were also a small number of 'did not attends'.
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Evidence of effectiveness

Evidence base for case study	National Institute for Health and Clinical Excellence (2008) Irritable bowel syndrome in adults: diagnosis and management . NICE guideline CG61 National Institute for Health and Care Excellence (2013) Faecal calprotectin diagnostic tests for inflammatory diseases of the bowel . NICE diagnostics guidance DG11
Evidence of deliverables from implementation	There was a 5% reduction, from 14% (May 2011) to 9% (August 2014), in slots in secondary care gastroenterology clinics for new people, aged 16–45 years, with no red-flag symptoms.
Where implemented	The initiative was implemented across Somerset. It was a collaboration between secondary care gastroenterology services (Taunton & Somerset NHS Foundation Trust and Yeovil District NHS Foundation Trust), primary care, the Somerset Clinical Commissioning Group and Community Dietetics (Somerset Partnership NHS Trust).
Degree to which the actual benefits matched assumptions	A 5% reduction, rather than a 14% reduction, of non-red-flag people with IBS referred to secondary care was achieved. This is because some GPs were concerned that underlying pathology may be missed such as cancer or inflammatory bowel disease. However, it was believed results from the pilot should allay some of their concerns.
If initiative has been replicated how frequently/widely has it been replicated	Since this project began in 2011, there have been 35 enquiries from other primary and secondary care teams to ask how this project was set up and how funding was agreed. A survey of these teams in late 2014 revealed that only 6 UK trusts had been able to offer a specialist gastroenterology dietetic community clinic. In cases where this has not been successful, 92% quoted 'lack of funding' and 29% cited 'lack of secondary care support' as

the reason.

Supporting evidence Outcomes from the initiative highlighted that there is no single solution to IBS and that it is essential to have a multidisciplinary approach. Reliable FC markers, effective dietetic intervention and GP education are required for a successful and cost-effective pathway.

Details of implementation

Implementation details

At the start of this project, research suggested that FC testing would distinguish between IBS and inflammatory gut conditions such as ulcerative colitis and Crohn's disease. FC testing was not available in primary or secondary care before this initiative. NICE's guidance on FC tests ([NICE diagnostics guidance DG11](#)) was published in 2013 after the pilot had been agreed.

The project plan included:

- GP education around diagnosis and management of IBS:
 - developing a 'Diagnosis of IBS' algorithm pathway app using the Rome III criteria for desktops to assist diagnosis of IBS;
 - providing information on when to use FC and blood tests;
 - providing information on when to refer to secondary care (such as people with red-flag symptoms or those with FC levels >150 µg/g);
 - providing education sessions on managing IBS using first-line diet, lifestyle or medication intervention;
 - increasing awareness of access to community-based dietitians for specialist dietary interventions including the low FODMAP diet.
- Using cost savings from reduced referrals to and investigations within secondary care gastroenterology to fund FC testing through GPs. When requesting FC testing electronically, GPs would be required to submit basic information. This information would gather data on appropriate use of the form and allow comparison with results.
- Using cost savings from reduced referrals to and investigations within secondary care gastroenterology to fund a specialist dietitian and low FODMAP diet training.

GP education sessions between 2011 and 2012 identified that few GPs had heard of or used the Rome III criteria to make a positive diagnosis of IBS. The GPs did not feel confident in managing IBS using first-line diet, lifestyle or medication. Therefore GP education sessions were organised through the Somerset GP education system and were delivered by the specialist dietitian or by both the specialist dietitian and a consultant gastroenterologist. Talks were given at 10 different locations/events ensuring a wide coverage of sessions. Sessions

included Somerset GP Education Trust, Federation Meetings, GP Training Days, Fresh Looks GP Training and GP Teaching Days.

All the FC testing samples were gathered through a Somerset Lab system covering GPs in Taunton and Yeovil and a single lab in Rotherham was used to avoid point-of-care testing and maintain consistency. GPs requested FC testing through an electronic system available on their computer. The request included a pop-up questionnaire asking for further details about the referral. The questionnaire helped to maintain control over requests for FC testing and prevent inappropriate testing. Because of the rate of false positives, this could lead to unnecessary investigations. GPs were advised that FC testing should only be used as an alternative to referring people to secondary care.

Before the initiative, audit data were collected for May 2011 (1 month) for secondary care non-red-flag IBS referrals under the age of 45. The baseline audit data were then extrapolated for 12 months, and this suggested:

- 1,992 people (aged 16–45 years with IBS) were referred by their GP for secondary care intervention;
- 350 (18%) of the 1,992 people had no red-flag symptoms and were considered suitable for FC testing;
- 285 (14.3%) of the 1,992 people were suitable for specialist gastroenterology dietetic community clinic intervention avoiding the costs of secondary care appointments and investigation. However, all 285 people had outpatient appointments and investigations in secondary care at an annual cost of £161,157.

Additionally, 6.8% of the 1,992 people had already had secondary care investigations within the last 5 years as symptom relief had not proved effective. The cycle of repeated referrals, outpatient activity and investigations costs an extra £76,376 a year. It was hoped that the new dietetic intervention would provide a longer term solution, consequently reducing referrals to secondary care.

Timelines for the initiative were:

- Pre 2011: preliminary pilot was conducted by the dietetic service to measure successful treatment of people with IBS.
 - 2011: baseline audit data were collected by secondary care to measure unnecessary referrals.
 - 2011–2012: business case for the initiative was prepared.
 - June 2012: funding gained for the initiative from Somerset Clinical Commissioning Group.
 - May 2013: specialist gastroenterology dietetic community service began.
 - Autumn 2013: FC testing through GP's started
 - May 2014: first data collected for dietetic intervention.
 - August 2014: first data collected from FC testing.
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Time taken to implement	The initiative took between 1 and 3 years to implement.
Ease of implementation	<p>Having multidisciplinary secondary and primary care representatives was fundamental in the success of this project.</p> <p>It was easy to recruit a dietitian because many dietitians wanted to work in this specialist area. Low FODMAP diet training at King's College London and MSc food allergy module training Southampton Medical School were taken.</p> <p>It was important to liaise with the head of pathology services to ensure FC testing was appropriately implemented.</p> <p>County-wide GP education sessions over a 2-year period were vital to ensure appropriate use of FC testing and application of the pathway.</p>
Level of support and commitment	<p>Feedback from GPs was very positive and there was a general consensus that they wanted more guidance on how to deal with people with IBS. They found the pathway apps very helpful.</p> <p>Excellent support from the community dietetic management team was very important.</p> <p>Gastroenterology secondary care teams were supportive of the process because they were required to reduce their outpatient referral rates. This initiative meant that they should no longer receive unnecessary non-red-flag IBS referrals.</p> <p>All stakeholders were included in meetings to ensure any objections and concerns were dealt with.</p>
Barriers to implementation	Some GPs were concerned that underlying pathology may be missed, such as cancer or inflammatory bowel disease. However, it is believed the initiative's outcomes should allay some of their concerns.
Risks	The dietitian must have a good understanding and training in red-flag symptoms. This is to ensure anyone who may be at risk of other pathology are referred rapidly back to their GP for onward referral to secondary care for investigation. All gastroenterologists were happy to discuss concerns about treatment with the dietitian at any point.
Supporting evidence	<p>Early results were presented at a Somerset GP forum in November 2014. Feedback from 80 GPs was positive and included comments such as 'really useful' and 'will change practice'.</p> <p>A study from Australia (Shepherd et al, 2008), published positive results from use of the low FODMAP diet to achieve lasting symptom relief from IBS.</p>

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One specialist community dietitian received low FODMAP training in 2010 from King's College London and undertook a pilot in South Somerset on people referred by GPs.

Further evidence

Dependencies

It was fundamental to have an NHS director to coordinate meetings and the business case among the stakeholders. The director was able to coordinate communication within the group and liaised with members individually when group meetings were not possible. The group meetings initially took place every 3 months while developing the business case.

Contacts and resources

Contacts and resources

If you require any further information please email: qualityandproductivity@nice.org.uk and we will forward your enquiry and contact details to the provider of this case study. Please quote reference 15/0006 in your email.

Drossman DA and Dumitrascu DL (2006) Rome III: New standard for functional gastrointestinal disorders. *Journal Gastrointestinal Liver Disease* 15(3), 237-41.

National Institute for Health and Clinical Excellence (2008) [Irritable bowel syndrome in adults: diagnosis and management](#). NICE guideline CG61

National Institute for Health and Care Excellence (2013) [Faecal calprotectin diagnostic tests for inflammatory diseases of the bowel](#). NICE diagnostics guidance DG11

Shepherd SJ, Parker FC, Muir JG et al. (2008) Dietary triggers of abdominal symptoms in patients with irritable bowel syndrome: randomised placebo-controlled evidence. *Clinical Gastroenterology & Hepatology* 6, 765–71

Further reading:

National Institute for Health and Care Excellence (2015) [Diagnostics adoption support for faecal calprotectin diagnostic tests for inflammatory diseases of the bowel – insights from the NHS](#). Health technology adoption programme

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