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Improving colorectal cancer referrals

Claire Gregory

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The Royal Bournemouth and Christchurch Hospitals NHS Foundation Trust, Bournemouth, UK

Correspondence to
Dr Claire Gregory;
claire.gregory11@nhs.net

ABSTRACT

The colorectal services at The Royal Bournemouth Hospital needed to adapt to meet the extra demand on fast-track patient referrals to the outpatient department, as a consequence of the changes in the National Institute for Health and Care Excellence (NICE) guidance on cancer referrals in June 2015. Learning from other units, a telephone assessment clinic (TAC) triaging patients straight to colonoscopy was trialled. A Plan–Do–Study–Act (PDSA) methodology was used. A baseline study showed that fast-track colorectal patients referred from their general practitioner (GP) were taking on average 30 days until they received their colonoscopy. This quality improvement project focused on sending fast-track colorectal GP referrals through a straight-to-colonoscopy TAC. The results of this intervention showed an improvement from GP referral to colonoscopy. Both PDSA cycle 1 and PDSA cycle 2 showed an average of 24 days. This reduction of 6 days was a promising improvement in a 62-day patient pathway, so funds were accessed to invest in a temporary full-time TAC nurse appointment to allow more data to be collected. PDSA cycle 3 showed a reduction of the average from referral to colonoscopy to 19 days and a reduction in the variation. This outcome will be sustainable, as the TAC role is now a permanent position.

PROBLEM

In June 2015, the National Institute for Health and Care Excellence (NICE) published new clinical guidance for recognition and referral of suspected cancer.[1] The new guidelines aim to increase the number of cancers diagnosed by the fast-track (2-week wait) pathway. The consequence of these changes will result in more fast-track referrals to secondary care, who need to be seen, investigated and start treatment within 62 days. This is the government target for cancer waiting times, from GP referral to first definitive treatment. The guideline uses a concept of 'risk threshold' whereby if the risk of a patient's symptoms representing a cancer is above a certain level, then action is warranted. Previously, this level was 5%, but the new guidelines have reduced this to one of 3%. Focusing on patients with suspected bowel cancer, the most commonly associated symptoms are change in bowel habit and bleeding.[2] However, the new guidelines now incorporate more non-specific symptoms such as weight loss or abdominal pain and have reduced the age at which a fast-track referral should be made.[1] These changes will result in more patients being referred to the colorectal outpatient clinics who require investigating on a fast-track pathway. The consequence of these changes will also mean that routine patients will be affected and their appointments delayed.

This project is based at The Royal Bournemouth Hospital. The Royal Bournemouth and Christchurch Hospitals NHS Trust provides healthcare for the residents of Bournemouth, Christchurch, East Dorset and part of the New Forest with a total population of over 550 000, which rises during the summer months. The Royal Bournemouth Hospital is a 690 acute bed site, which includes 272 medical beds, 6 coronary care unit beds, 7 intensive treatment units and 8 high-dependency units. There is a 24-hour accident and emergency department, which sees around 80 000 patients a year. Looking at the demand on the colorectal outpatient department for The Royal Bournemouth Hospital showed that the service was already struggling to keep up with demand, prior to these changes being enforced. Therefore, something had to change to accommodate the extra demand on the service.

The study's aim was to establish safe systems to deliver compliance on 2-week waits (fast-track) colorectal patients without detriment to other g patients and to reduce the average time for colonoscopy investigations from 30 days to below 28 days in the next 6 months, by the introduction of a telephone assessment clinic (TAC), triaging fast-track colorectal patients straight to colonoscopy.

BACKGROUND

Since the Department of Health introduced mandatory targets in 2000, patients with suspected cancer are expected to be reviewed by a specialist within 2 weeks of presenting to their general practitioner (GP).[3] The new NICE guidance now recommends that the risk of cancer should be lowered from a risk threshold of 5% to one of 3%.[1] It is impossible to predict the increase in fast-track colorectal patients referred under these new guidelines, but it is likely to increase beyond the current annual growth rate of 5%. The

existing system was already struggling with capacity versus demand for colorectal outpatient appointments, prior to the introduction of the new NICE guidance. Also, the cancer yield from this fast-track patient group is small, with the majority of cancers identified in patients presenting outside of the 2-week wait referral system.[4 5] These patients would consequently be negatively impacted by the increase in fast-track patients and therefore would further delay in diagnosing their cancer.[4] Therefore, a timely pathway from referral to investigation is needed to benefit all patients, as early diagnosis has been linked to improved survival.[6]

The initial outpatient appointment fulfils the requirement and consequently stops the clock with regard to the patient being seen within 2 weeks but slows the patient pathway and is often uninformative and unproductive for the patient.[4] A straight-to-test pathway is common for other symptoms: rectal bleeding, iron deficiency anaemia and other surgical specialties like urology. In 2008, Dorset County Hospital set up a nurse-led colorectal telephone assessment pathway, which triaged patients straight to test. They successfully reduced time to diagnosis from 23 weeks to 4 weeks with high GP and patient satisfaction rates; however, this was in non-fast-track patients.[4] Similar telephone assessment services have been set up in Guy's and St Thomas' NHS Foundation Trust[7] and has been described as best practice by the London Cancer Alliance.[8]

BASELINE MEASUREMENT

In this project, three different measures were considered: process measures, outcome measures and balancing measures. The process measure was the number of days between GP referral and investigation (colonoscopy). The outcome measures were the number of patients referred to TAC, the number of patients referred for investigation and the number of patients diagnosed with cancer. The balancing measures were the number of potential outpatient clinic appointments freed up. The baseline measurement was the process measure of the number of days between GP referral and colonoscopy. Before any change was implemented, the average number of days between referral and colonoscopy for fast-track referrals was 30 days. So the baseline measure was 30 days, with a range of 6–78 days. During the project, patients who were referred to the TAC were recorded on a database by the colorectal secretary, and their information was updated by the colorectal team.

DESIGN

A safe and timely intervention was needed to allow fast-track colorectal patients direct access to colonoscopy, thereby bypassing the already overstretched outpatient department. Several ideas were considered, and the medical gastroenterology team was also included in the discussions, as some of the complex referrals could be medical rather than surgical. The criteria for patients to be referred to the surgical or medical team were reviewed, but this would not reduce the referrals to the colorectal team enough for the existing outpatient clinics to accommodate and therefore was not a sustainable solution. Employing an additional colorectal surgeon was another option, but to attract a suitable candidate, a balanced job plan would only add a further two or three clinics a week, so two consultants would ideally need to be appointed. This would be too costly a solution. Following the example of other centres, an improvement project trialling a TAC to send colorectal fast-track patients straight to colonoscopy was deemed to be a sensible cost-effective solution. The initial clinics would be run by a middle-grade surgical registrar, supervised by one of the colorectal consultants. This solution would ensure that patients get the appropriate test, without putting them at increased risk and allowing them to avoid the initial outpatient appointment, thereby speeding up the patient pathway. In the future, if the trial was successful, then the aim was to have the TACs run by a nurse specialist.

The project required engagement of a multidisciplinary team, which involved the improvement team, surgical team, medical team, service line managers, endoscopy department, administration, outpatient booking team, IT and the audit department. The patients referred to the colorectal team as fast-track patients would be contacted and asked if they would like a telephone assessment instead of the existing outpatient clinic appointment. If they agreed, they would be booked into a TAC slot and given an appointment time (30 min window) when they would be contacted by phone to assess their symptoms and then if deemed appropriate would organise a date for colonoscopy at the same time. This was felt to be sustainable in the long term, as the surgical registrar could be replaced with a nurse specialist in the future, thereby freeing up the surgical team to see other more complex patients in clinic and be available to operate in theatre. The intervention needed a medical practitioner, a private room with access to a telephone and a computer and the patient notes. The first trial was to run 4–6 TACs, with up to six patients per clinic, with a mix of morning and afternoons over several days to allow patients some flexibility and choice. After the first two clinics, a meeting was arranged so any changes could be achieved quickly and introduced prior to the following clinics. Following this, a second trial would repeat the first trial and incorporate any changes learnt from the first trial. The second trial would be conducted by a nurse specialist and overseen by the surgical team. If successful, then a nurse specialist would be advertised and appointed to fill the role on a full-time basis and allow future sustainability.

STRATEGY

The baseline measurement for fast-track colorectal patients of days between GP referral and colonoscopy appointment was obtained from the hospital outpatient and endoscopy records. These data were covered from

January 2015 to October 2015 and the mean time from referral to colonoscopy was 30 days for fast-track patients seen in the outpatient clinic. The project's SMART aim was to reduce the average time for colonoscopy investigations from 30 days to below 28 days in the next 6 months, by the introduction of a colorectal TAC, triaging fast-track colorectal patients straight to colonoscopy.

Plan–Do–Study–Act (PDSA) cycle 1 (November/December 2015)

PDSA cycle 1 aims to set up a TAC for fast-track colorectal patients to be assessed and triaged straight to test if appropriate. The fast-track patients referred were telephoned by the booking department and were informed of the trial of TACs and were asked if they were happy to be assessed by phone or alternatively be seen in the outpatient department. Once the patient agreed to the TAC, they were given a date and a time for the TAC. In the first cycle, there were four different TACs, with six patients booked per clinic. These clinics were run by a middle-grade surgical registrar. The surgical registrar was given information from an endoscopy preassessment nurse in the details of bowel preparation and preassessing patients over a telephone consultation prior to conducting the TACs. The surgical registrar was also given access to the hospitals endoscopy booking service, so that after assessing the patient, he could book patients directly into a colonoscopy slot if required. Bowel preparation was posted to the patient. Each patient assessed via the TAC was sent a patient satisfaction survey to gather patient feedback on the intervention.

During this first PDSA cycle, 23 patients had a telephone appointment. Two patients were uncontactable and did not answer their phones, and three patients were assessed as too complex to assess safely over the phone and rereferred to be seen urgently in the outpatient department. The mean number of days from referral to colonoscopy was 24 days. This was a reduction from the baseline measurement of 30 days but was a very small sample size. During this cycle, we learnt several points. The office arrangement worked well, with a telephone, computer and patient notes. Patients appeared keen to accept a telephone appointment, as no patients refused a TAC, and the results of the patient satisfaction questionnaires showed that patients were keen and approved of the new service, with 90.5% stating they were happy or very happy to receive a telephone appointment. The team thought a standard pro forma questionnaire for the TAC would be useful to guide the questions and document the patients' answers and this could then be added to the patient notes. A patient database would be required for all the TAC patients, so that results and outcomes could be easily followed up. An unexpected outcome was that despite being asked about receiving a telephone assessment, not all patients were expecting the phone call, as two did not answer their phones. Booking the patients too early into a colonoscopy slot required the patient to come in to hospital to pick up their bowel preparation, as posting it out may not get to the patient in the required time frame. Complex patients were rereferred back to the outpatient department and a referral process back into the outpatients' system needed to be set up, so that unnecessary delays were minimised.

PDSA cycle 2 (March/April 2016)

PDSA cycle 2 aims to set up a nurse-led TAC for fast-track colorectal patients to be assessed and triaged straight to test if appropriate. Having learnt from the previous PDSA cycle, during this cycle, an endoscopy preassessment nurse ran the TACs instead of a surgical registrar. The fast-track colorectal patients referred during this cycle were contacted by the booking team and asked if they were happy to be assessed via a nurse-led TAC. When telephoning the patient to arrange a TAC appointment, the booking team confirmed the patient's telephone number to be best reached on and gave them a time (30 min window) and date to be available for. During this cycle, there were four TACs set up, with six patients per clinic. These clinics were run by an endoscopy preassessment nurse specialist, overseen by a doctor from the colorectal team. Having learnt from the previous PDSA cycle, a patient database had been organised, and a fast-track referral process back to outpatients for complex patients had been arranged. A colorectal telephone assessment pro forma had been designed and was used for this cycle.

During this cycle, 21 patients had a TAC. Two patients failed to answer their phones, and three patients were rereferred to the outpatient department. The mean time from GP referral to colonoscopy was also 24 days. During this cycle, we learnt that the process works, patients are keen and engaged with the new clinic and the time between referral and colonoscopy was the same as in PDSA cycle 1. The team discussed the merits of this improvement project and was impressed by the initial results gained over the two PDSA cycles. Finding time for the same nurse to run further clinics was difficult due to the demands on the endoscopy department. So rather than running a third PDSA cycle of four more TACs and using the same preassessment nurse, the stakeholders decided that the initial results were promising, patients were engaged and the next step was to appoint a temporary nurse specialist on a full-time basis to run further colorectal TACs to gather more data. Funding for the position was attained, and an advert for the temporary role of a nurse-led TAC was posted.

PDSA cycle 3 (January 2017)

A full-time nurse-led TAC was set up for fast-track colorectal patients to be assessed and triaged straight to test if appropriate. A specialist endoscopy preassessment nurse ran four clinics a week, with 5–6 patients per clinic, giving a total of 14 clinics in January. Seventy-nine patients were referred through the TAC, and 64 required a colonoscopy. Fifty-nine patients had a colonoscopy as a fast track, and five patients were downgraded to routine. The mean time from GP referral to colonoscopy is 19

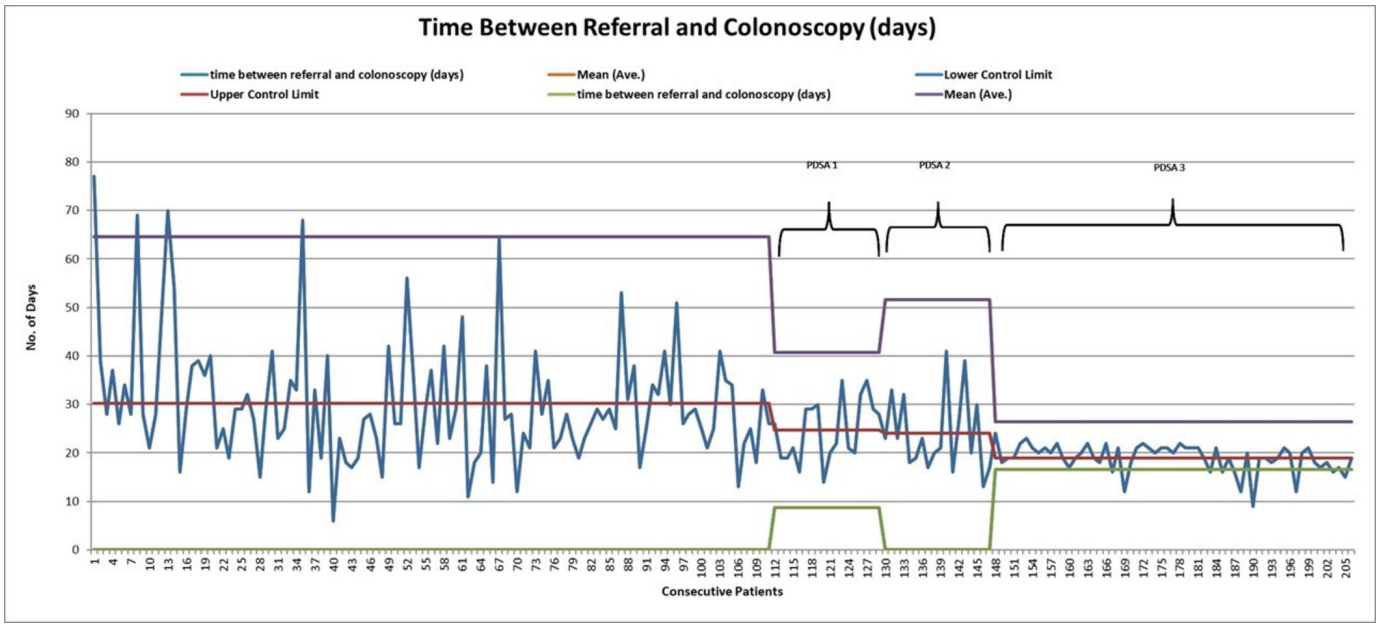

Figure 1 Statistical process control chart.

days, an improvement from the previous PDSA cycles. The variability was also reduced.

RESULTS

Capacity and demand data were initially analysed to show that there was a problem with the current outpatient system with regards to the number of patients referred and the number of available outpatient slots. Cancer data are routinely collected as there are strict targets on patients being seen, diagnosed and treated. The fast-track colorectal patient data were collected and analysed, looking at the time from referral to colonoscopy. These data were collected as baseline data to assess the time frame of patients seen via the traditional outpatient referral route. The same data were collected from the patients assessed by the TACs in PDSA cycles 1, 2 and 3. These data were then analysed to determine if any improvement had occurred. The results showed that patients seen in the existing outpatient clinic had a mean of 30 days between GP referral and colonoscopy. During both PDSA cycles 1 and 2, this mean reduced to 24 days. In PDSA cycle 3, this mean reduced to 19 days, and a reduction in the variation was also noted. These data can be seen in the SPC chart below (see figure 1).

The outcome measures showed that a total of 44 patients were referred to the TACs in the first two cycles: 23 patients in PDSA cycle 1 and 21 patients in PDSA cycle 2. In both PDSA cycles, two patients failed to answer their phones and therefore were rereferred through the existing outpatient system. Another three patients in both cycles were also rereferred to the outpatients' department as their symptoms were deemed too complex to be assessed and safely sent to test via the TAC. Patients can cancel/change three appointments during the fast-track process, before they are no longer considered to be a fast track. There were two patients during PDSA cycle 1 who repeatedly cancelled their appointments and refused to undergo a colonoscopy when first referred. Their results were omitted from the subsequent analysis. From the patients assessed via the TACs, only one patient was found to have a cancer. In PDSA cycle 3, 79 patients were referred through the TACs, with five patients being downgraded to routine. Fifty-nine patients were given a colonoscopy as a fast-track patient. No patients in this cycle missed their TAC appointment. The number of patients successfully assessed via the TAC in PDSA cycle 3 were 79. This represents the balancing measure of how many outpatient slots were freed up by the new TAC now run by a specialist nurse.

LESSONS AND LIMITATIONS

There were many lessons learnt during this project. Slower progress was made than initially anticipated, as multiple departments needed to be engaged and assisted with the design and implementation. Close liaison with the endoscopy department and booking team was vital to ensure available appointment slots to book into from the TAC. A database for the TAC patients needed to be available to allow easy and safe follow-up. A referral system back to outpatients needed to be arranged, so patients were not delayed, if their symptoms/circumstances were too complex to be assessed safely via TAC. There were times of immense frustration, as the initial TACs were conducted over a period that included Christmas and also the junior doctors' strike, so some clinics were cancelled and some appointments delayed. This was frustrating as it was out of our control and may have affected the data collected. The process may have been made more efficient by choosing a permanent surgical staff grade to run the initial clinics, rather than the surgical

registrar, as the registrar had a fixed timetable and leave, with strict training requirements, so booking clinics were difficult. The preassessment nurse running the second PDSA cycles also had other work commitments, so again a different member of staff may have been a better alternative to start with.

The main limitations to this project was that only two small PDSA cycles were carried out initially. Therefore, the data set was very small, and the conclusions were limited. Ideally, further cycles would have been carried out earlier, but this was difficult to achieve. However, a reduction of 6 days from referral to colonoscopy in a 62-day pathway was a promising start and worth further investment. Rather than train another temporary member of staff to run further trial clinics, the decision to appoint a nurse specialist to run the clinics was agreed. The funding for this appointment was from charitable money, and so there was a delay in further data collection until this position had been filled.

The strengths of this project are that patient feedback from questionnaires was very positive and showed they liked it, with 86% of patients happy to have a further TAC appointment if necessary. The mean time in days from referral to colonoscopy in cycles 1 and 2 was 24 days. This was a reduction of 6 days from the baseline of 30 days from the existing outpatient referral process. The sample size of this initial project was small, and therefore the significance of the difference is limited, as previously mentioned. However, the project was able to continue and obtain further data from the availability of charity money to fund a temporary full-time nurse-led TAC role. Once appointed, further data were collected in PDSA cycle 3. In this cycle, the average time between referral and colonoscopy had reduced to 19 days with a reduction in variation also, suggesting an improvement had been achieved. The cost of appointing a new nurse specialist to the role is more than offset with the time freed up for the surgical team to see more complex patients in outpatients and more theatre time to operate on patients. The team was pleased with these preliminary results, and following this, the TAC nurse role has now been made a permanent position, allowing sustainability of the improvement.

The project focused on fast-track colorectal patients at The Royal Bournemouth Hospital. Future roll out of the TAC could be to include all colorectal referrals, not just fast-track patients. Once enough data have been gathered and the benefits shown, then maybe other surgical disciplines could think about which patients could be assessed by telephone. The medical gastroenterology team, who was involved in the beginning of the project, has shown some enthusiasm for the project and is thinking of ways it could benefit their patient population. The urology department are also interested in this project. Thinking outside of the Royal Bournemouth Hospital, perhaps other hospitals could also gain from introducing this concept.

CONCLUSION

The problem facing the team was that the colorectal outpatient department in The Royal Bournemouth Hospital had an imbalance between the capacity and demand. This was predicted to get worse when the changes in NICE guidance were implemented and the colorectal service needed to adapt to manage the situation. Looking at other hospitals and patient journeys, many other units used nurse-led TACs[4 7 8] and sent patients straight to test,[9–11] with good results. It therefore seemed introducing a similar clinic at The Royal Bournemouth for the fast-track colorectal referrals was a good intervention. The improvement in reduction in time between referral and colonoscopy is in keeping with other studies.[4 9–11] The use of straight-to-test colonoscopy has been well documented in the literature.[9 10] It has been shown to be safe, cost-effective and efficient, freeing up unnecessary first outpatient appointments and allowing early definitive diagnosis with prompt treatment or discharge back to primary care.[9] Cancer survival rates are linked to prompt detection and treatment, and any delay in diagnosis and treatment leads to decreased survival.[6 9] Although a significant delay has been reported to occur before GP referral,[6] any subsequent delay in the treatment pathway adds to the overall mortality. It is therefore important that the interval between a patient's presentation and their diagnosis/treatment of colorectal cancer should be as short as possible.[3 12] Therefore, an improvement project that can shorten a patient pathway from presentation to diagnosis is worth investing in.

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Contributors The project was a multidisciplinary team effort. Robert Howell supervised the telephone assessment clinics. Geraldine Sweeney contributed to planning the project. Jo Pritchard assisted with the data interpretation and SPC charts. CG coordinated and submitted the project.

Competing interests None declared.

Ethics approval Ethical approval was not required since it was an improvement project. The patient satisfaction questionnaires were approved by the hospital audit department.

Provenance and peer review Not commissioned; internally peer reviewed.

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