Final report

August 2017

Innovating for Improvement

Rapid **A**ccess **P**atient **I**nvestigation and **D**iagnosis **P**ortal (**RAPID-P**)

Westcliffe Health Innovations

The Health Foundation

About the project

Project title: Rapid Access Patient Investigation and Diagnosis Portal (RAPID-P)

Lead organisation: Cowgill Medical Practice

Partner organisation: Oberoi Consulting, Westcliffe Medical Practice Partners, Westcliffe Health Innovations, Local Practices Patient Support Groups, Bradford Metropolitan District Council

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Part 1: Abstract

Rapid Access Patient Investigation and Diagnosis Portal (RAPID-P) is an innovative model of practice developed and piloted in primary care by Westcliffe Health Innovations in partnership with Oberoi Consulting.

RAPID-P addresses the critical need for early investigation and diagnosis of upper GI cancers.

Current evidence indicates referral times are frequently 4-5 weeks and appointment for diagnostic testing a further 3-6 weeks

June 2015, National Institute for Health and Care Excellence (NICE) published guidance (NG12) advising a standard for offering urgent and direct access to endoscopy in two weeks and definitive diagnosis within 4 weeks.

RAPID-P is designed to successfully implement this.

Each patient user completes a secure online self-triage questionnaire.

The algorithm-driven, automated system grades response to answers with either:

- Direct straight to test endoscopy clinic
- Straight to test to urgent specialist outpatients with a consultant gastroenterologist
- A prompt GP appointment

This process bypasses initial GP appointment as physical examination adds nothing to decision making for this condition.

We conducted PDSA testing to ensure the system was safe and acceptable to patients.

In the first quarter of RAPID-P going live, 69 patients presented with upper gastrointestinal symptoms from five GP practices.

Current results indicate those identified through RAPID-P with:

- Red, urgent referral, have been referred and seen within 7 days
- High Amber, direct referral recommendation, have been seen within 14-25 days, with 50% seen within 14 days

Furthermore:

- All patients have received confirmed diagnosis and initiated on appropriate treatment pathway
- All referrals have been within NICE recommended time and in <50% of cases, faster that NICE recommended criteria

The intervention is now standard of care across the participating practices.

Part 2: Progress and outcomes

The RAPID-P: The Intervention

Designed to tackle the challenges identified in detection and subsequent referral across primary and community care. RAPID-P is a re-engineering of primary clinical care pathways using innovative screening technology

Initial review for referral of signs and symptoms of upper GI malignancy is based upon the patient history and a set of clinical questions (as set out in NICE NG12). Hence a face to face appointment with a clinician is not required to assist assessment for referral. Consultation may, and has been shown to, delay referral.

RAPID-P

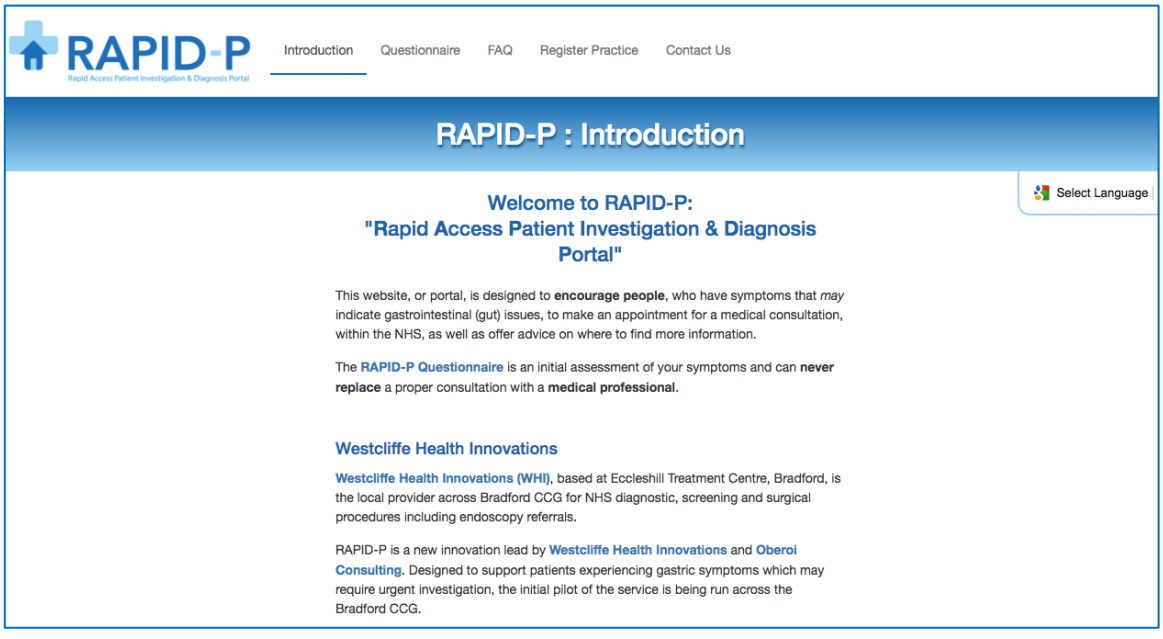
- Enables a patient to complete a set of questions underpinned by clinical algorithm NG12
- Provides immediate automated triaging to the appropriate care pathway
- Sends an immediate automated response to the patient to reassure and inform them of the next steps
- Sends an immediate and automated alert to the patient's medical practice to alert them of the RAPID-P outcome and recommended next steps

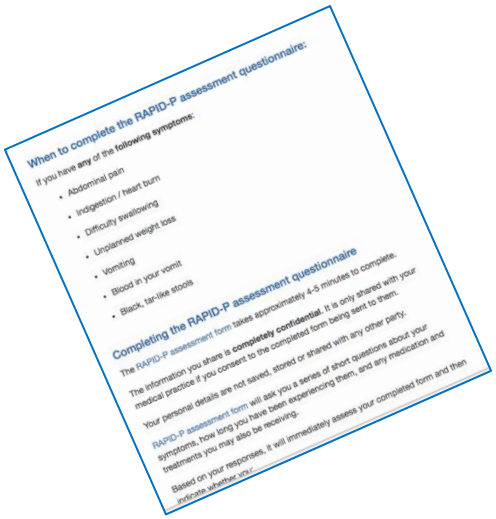
Patients identified as recommended for further investigation would be referred to either:

- A choice of Endoscopy Clinic (local point of care clinic)
- Offered the 'Choose and Book' option
- If contra-indicated and identified as requiring specialist Consultant review, referred accordingly
- Back to their GP

RAPID-P Portal

https://www.rapidp.co.uk/introduction/





RAPID-P:
Designed to tackle the challenges identified in detection and subsequent referral across primary and community care. RAPID-P is a re-engineering of primary clinical care pathways using innovative screening technology.

Our aims for the RAPID-P project included:

- Provide a set of questions underpinned by clinical algorithm NG12 that a patient could complete remotely and accurately be automatically triaged by algorithm driven embedded software
- Completion of RAPID-P would negate need for all patients experiencing upper GI symptoms, to have an initial GP appointment
- Time to referral / next step appointment would be reduced
- Time to diagnostic testing and conclusive diagnosis would be reduced
- Contra-indicated patients would be identified and triaged as per correct protocol
- Urgent and direct referrals would attend referral within NICE recommended time
- Automated triaging would occur almost immediately following submission of completed questionnaire
- Patient (users), practice staff and selected referral site would receive automated email alerting of requirement, triggering a safety mechanism for follow-up
- User (patient) would receive email of confirmed receipt and recommended next action

Our measures were built around our aims:

- Did RAPID-P increase speed to referral for appropriate patients?
- Was there evidence to suggest RAPID-P reduced burden of appointment for primary care?
- Did the automated system correctly triage patients?
- Did percentage of appropriate referrals improve?
- Were there on-going cost savings off setting set-up costs?
- Could patients (users) easily and complete the questionnaire?
- Did patients like the innovative approach to referral to appropriate clinician?

Clinical and admin practice staff, users and patient representatives were involved in development and testing with and their feedback invited.

Review of RAPID-P patient users included:

- 50% patients interviewed in first pilot
- 20% of patient users tracked to date in first quarter of live RAPID-P portal
- 'Red' or 'Amber' data results reviewed for clinical assessment.

RAPID-P algorithm:

In line with NG12, a series of questions were developed that:

- Confirmed what signs and symptoms the patient was experiencing
- Time frame since first signs/symptoms experienced
- Whether there were contra-indicators that placed the patient on a specific GP/Consultant are pathway
- Current medication
- Important, relevant medical history (heart disease / diabetes / mental health)
- RAPID-P also captured the person's age, gender, preferred language

Patients identified as recommended for further investigation would be referred to either:

- A choice of Endoscopy Clinic (local point of care clinic)
- Offered the 'Choose and Book' option
- If contra-indicated and identified as requiring specialist Consultant review, referred accordingly

RAPID-P development

The draft questions were tested (questions attached) and embedded with triaging criteria:

If health points >69 points – RED

Fast track direct access endoscopy within two weeks

If health points >39 and ≤69 points – AMBER HIGH

Amber High, Direct access to endoscopy (2-4 weeks)

If health points >29 and ≤39 points – AMBER LOW

Patient advised to make an urgent appointment with their GP,

Amber Low, Non-urgent direct access to endoscopy (4-6 weeks)

If health points ≥0 points - ≤29 points – GREEN

Patient advised to make a routine appointment to see their GP

AUTO-REFER >0

Triggered if user identified through questions as needing automatic referral due to organ transplant / pacemaker

RAPID-P Implementation:
The questions were initially uploaded to Survey Monkey and tested via i-pads on forty patients booked for an endoscopy attending the Eccleshill Treatment Centre, Bradford.

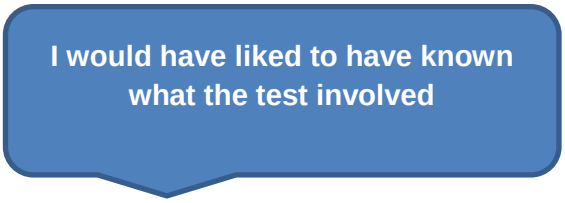
I-pads were placed in each participating surgery and patients presenting with signs and symptoms of upper GI malignancy were invited to complete the questionnaire and supply feedback.

In order to **raise awareness of RAPID-P amongst the practice population the pilot practices serve we**:

- Secured local press coverage sharing information about the initiative, who may benefit for using it, how to access RAPID-P and follow up.
- Each practice and local serving pharmacies displayed RAPID-P information posters.
- All practice staff were informed of RAPID-P and specific training about who should be sign posted to / encouraged to complete the questionnaire, was given to all practice admin and reception staff.
- Each practice website included information about RAPID-P on the HOME page and booking appointments area, with links to full information and the RAPID-P portal.
- Each practice's regular newsletter to registered patients and staff included information and on-going updates about RAPID-P including website links.
- Local teams liaised with the practices' Practice Patient Group, to share, update and seek suggestions and guidance on sharing this further.

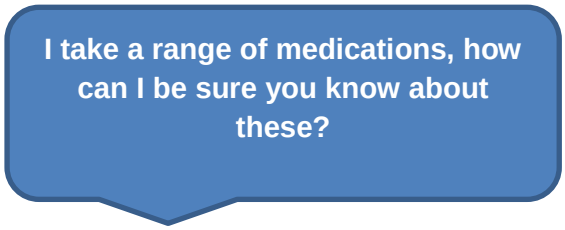
We do recognise that in future scaling up of RAPID-P, increased activities to extend awareness and independent decision making to access and complete the questionnaire would be essential.

During the pilot, review from feedback resulted in changes being made to the wording of a few questions. E.g.:



Patient A

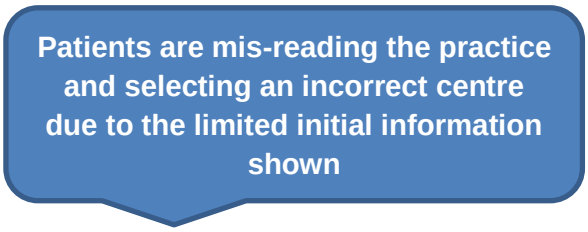
Outcome: Wording was included to explain the term '*endoscopy*'



Patient B

Outcome: Text box space was included to invite all other medications / symptoms / health history, to be listed.

Feedback from **practice staff** was very important. Practice staff were regularly consulted and amends / actions taken as a result. E.g.:



Outcome: Address set-out amended

As part of the pathway to ensure practice GPs, were updated on the outcome of investigations and continuity of care maintained, RAPID-P followed the established and implemented pathway which had already proved effective:

- Each patient is given a copy of their investigation report prior to leaving the Endoscopy Unit.
- A copy of the report is also posted to their GP within 48 hours of the procedure via the secure NHS.NET mail.
- If a concern / something sinister is found during the procedure, then the patient's GP or on call GP, is contacted on the day the investigation is carried out, and informed of the results.

When initially completing RAPIDP, the RAPID-P team are aware that we cannot be certain a *non-identified patient* acts on RAPID-P recommendations (the person completing the online questionnaire has to give permission for the report to be securely sent to their practice GP).

RAPID-P is a tool that advises a patient as to whether they should seek an appointment with their GP or be referred straight to investigational test.

RAPID-P encourages patient empowerment.

If the practice / CCG has commissioned RAPID-P, then a report will be sent via the secure NHS.NET email to the GP with their recommendation. It is then up to the practice as to whether or not they contact the patient directly. This may vary between practices and the CCGs may be able to influence the decision making of the practice if this was the case. We would advocate that training including receipt of report and recommended actions would be required.

Identification: RAPID-P has been created using NICE NG12 guidelines. As guidance, we would hope that RAPID-P would pick up the majority of patients, and early testing in the pilot stage, all be it with small numbers at the moment, shows early indication that this is working. However, we must always be mindful that some patients can present differently. We would recommend that anyone with unintentional weight loss see their GP as soon as possible.

Measuring outcomes:

Primary measures:

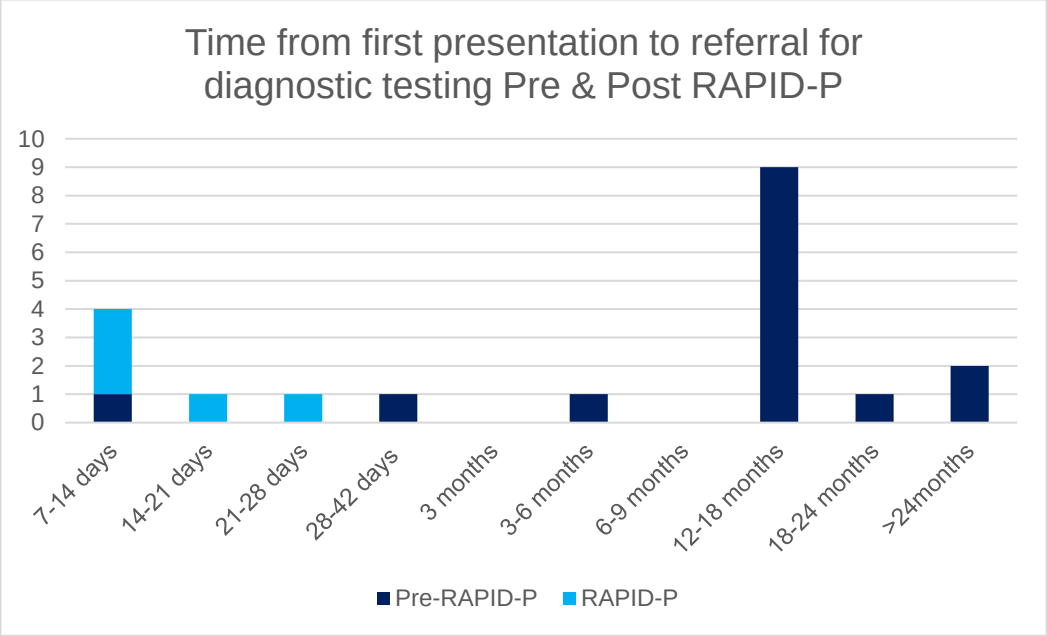
1. **Time to Test**

Evidence gathered during the initial pilot and interview of 40 RAPID-P users July – October 2016.

17 (42.5%) recorded time from first presentation to referral. Patients tracked showed wide variation in time from presentation to referral for diagnostic testing ranging from weeks to 24+ months.

In Jan 2017, when the RAPID-P portal went live. Between January – May 30th 2017, 69 users completed RAPID-P during this period.

20% of the 2017 first quarter users have been tracked to measure time to referral.



2. **Were patients completing RAPID-P appropriately triaged**
   (i) If contra-indicated?

Of the 69 completed questionnaires between Jan – May 2017

- 12 indicated a history of mental health
- 10 indicated with history of heart disease

[NB: Patients with indication of mental health issues can be seen in secondary care, however for those who have been recently sectioned and those who may lack sufficient

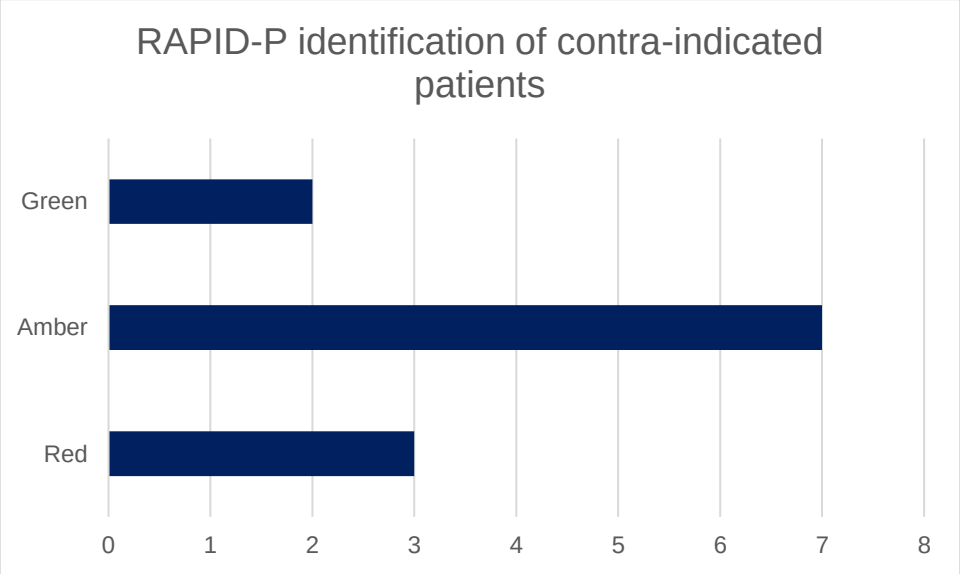
capacity to consent, protocol indicates that all of these referrals are to go to a hospital trust.

If a CCG/Trust referral protocol was that all referrals are seen in a Hospital Trust setting, then this indicator could be removed. This a locally-relevant indicator.

Guidelines indicate that patients with a history of MI within the last six months, do not have an endoscopy (within that 6-month period).

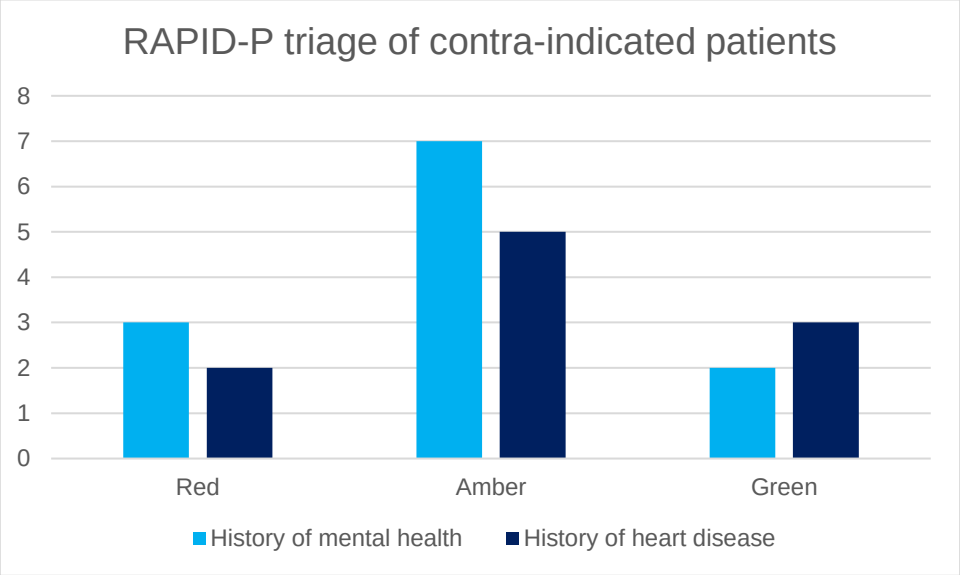
Patients who have a pacemaker are seen in a Hospital Trust setting.

Referral could be amended to suit local protocol e.g. for all MI/pacemaker indicated cases, referral directed to a Hospital Trust.]



RAPID-P successfully auto-referred each contra-indicated.

(ii) Contra-indicated and assessed for appropriate triaging



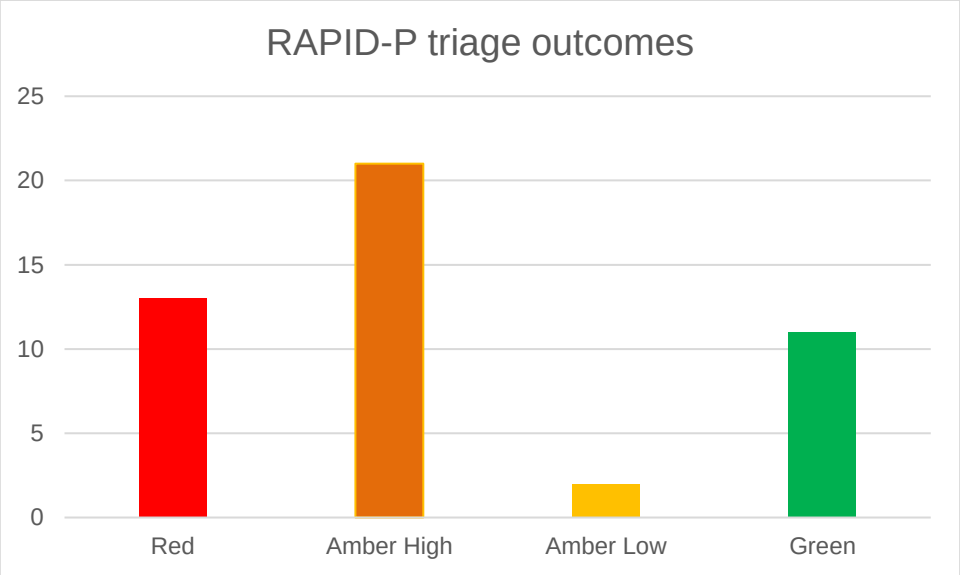
Green- we believe these patients suffered from anxiety and wanted the test repeated for continual reassurance.

RAPID-P assessed contra-indicated to auto highlight recommended referral pathway, avoiding delay.

Bespoke assessment in response to an individual's needs symptom and medical history needs

(iii) Triaging of remaining patient questionnaires

RAPID-P assessed responses and triaged remaining 47 completed questionnaires.



RAPID-P assesses each completed questionnaire against the NG12 clinical algorithm. Every patient has an indicated pathway, and so even if they are referred to see their GP, there will be follow up.

With planned enhanced tracking of each patient completing RAPID-P, we are considering options to build-in an automated action that if any patient is not seen/has not actioned an indicated pathway within two weeks of completing RAPID-P, an automated letter is sent or phone call is made by practice staff.

Indications form the pilot run between Jan – May 2017, the outcome triaging for RAPID-P was successful and indicates the clinical algorithm underpinning RAPID-P
was in line with NICE NG12 and RAPID-P Standard Operating Process.

3. Has assessment via RAPID-P clinical algorithm improved percentage of appropriate referrals?

Pre-introduction of RAPID-P, referral amongst practices and individual GPs was variable with some having lower or higher thresholds for referring. Furthermore, we are aware that some patients were being inappropriately fast-tracked in order to be seen sooner due to long routine waiting lists.

RAPID-P has, and will continue to help standardise referrals in line with clinical evidence and national guidelines (NG12).

Further testing will provide increased data to address and test this. However, during the Jan-May 2017 pilot, eight patients referred for diagnostic investigation as a result of completing RAPID-P were tracked.

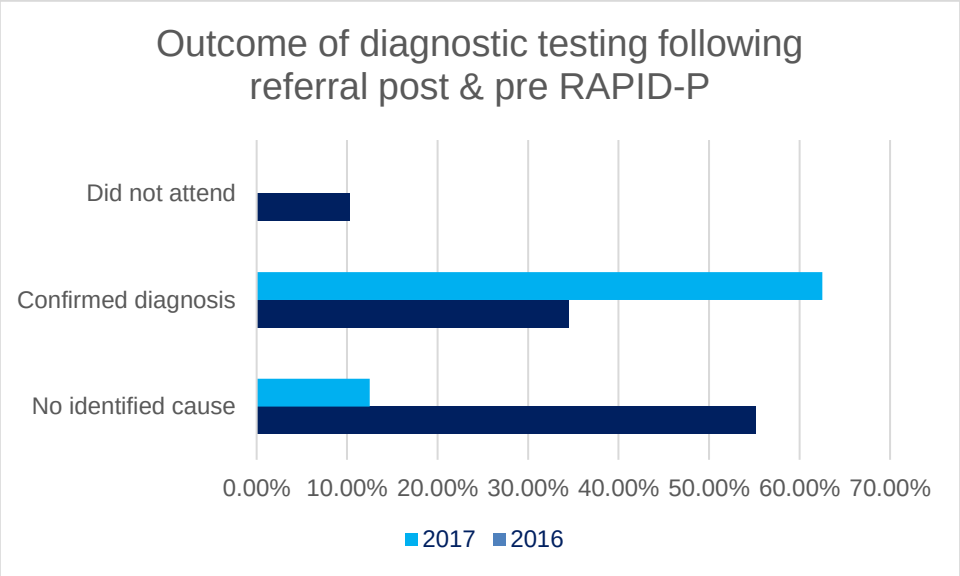
Subsequent confirmed diagnosis was recorded and compared to patients referred through traditional pathways in the corresponding months of 2016:

Time	No identified cause	Confirmed diagnosis	Did not attend	Total No of Patients
2016	16 (55.17%)	10 (34.48%)	3 (10.34%)	29
2017	1 (12.5%)	5 (62.5%)	0 (0%)	8* (1 patient tracked was 'Green' and outcome check was 'Normal'**)

*One patient had been indicated 'Red' by RAPID-P, was referred for fast track diagnostic investigation but opted for referral to secondary setting

** This patient had been assessed as 'Green' using RAPID-P and was subsequently seen by the GP. We believe the individual had been previously trailed on a PPI, and H.Pylori

status checked. Then a decision to refer had been made. This does indicate an example of follow up and intervention for individuals completing RAPID-P.

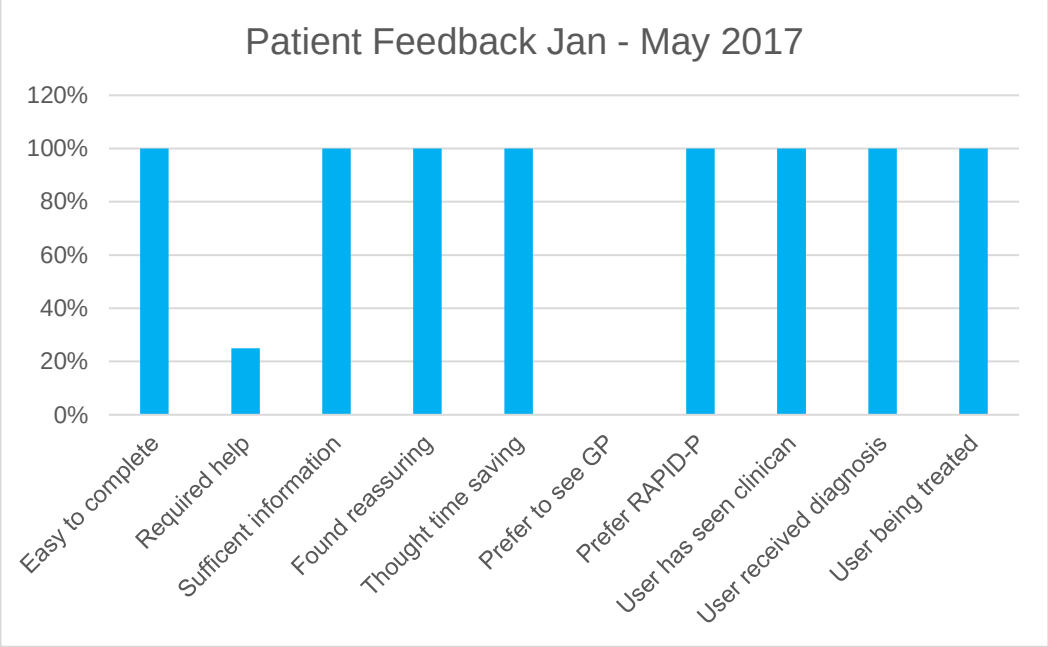


Outcome: First quarter indications show significant improvement in appropriate referrals for investigational diagnostic testing.

4. **What did patients think of this approach for referral to appropriate clinician?**

Patients completing RAPID-P between Jan – May 2017 were invited to complete a patient-satisfaction survey.

- 50% responded to date.



Data sourced was collected from:

1. Directly from RAPID-P completed anonymised questionnaires
2. Within practice, identifiable patient records which were subsequently tracked by clinical staff
3. Survey responses gathered during patient interviews and via patient survey

Part 3: Cost impact

Cost savings:

- **Reduced number of GP appointments**

2016 data indicated patient recollections of time from first presentation of signs and symptoms to date of referral appointment.

These figures are unable to be verified, however a time delay of more than eight weeks would suggest multiple GP appointments for the symptoms, prior to referral.

However, comparing the 2017, eight tracked patients. All had been referred via RAPID-P and so had not required an initial GP consultation.

Pre-RAPID-P all would have had at least one initial GP appointment.
While those completing RAPID-P and as a result, indicated amber/green would have then had a GP appointment, the suspicion of upper GI malignancy would have been assessed (based on NG12) and the results would have suggested that the individual be treated conservatively first with medication, followed by H.Pylori testing.

Potential time-delay would have been avoided for everyone completing RAPID-P, and the individual completing RAPID-P was also given the opportunity to print their RAPID-P report and take with them when seeing the GP.

Those who were indicated 'Red' on completing RAPID-P would not have required a GP appointment, giving time and cost savings to the patient, GP and practice admin staff. This would undoubtedly result in quicker, direct access referral for the patient and lead to an expected quicker diagnosis and commencement of indicated treatment.

In 2017, the eight tracked evidenced a cost saving of: **£45.00 x 8 = £360.00**

- **Appropriate referral**

2016 v 2017 data

Time	No identified cause	Confirmed diagnosis	Did not attend	Total No of Patients
2016	16 (55.17%)	10 (34.48%)	3 (10.34%)	29
2017	1 (12.5%)	5 (62.5%)	0 (0%)	8 (1 patient tracked was 'Green' and outcome check was 'Normal')

Cost of referral appointment = £325.49

Appropriate referrals for diagnostic upper GI tract procedure (+19 yrs) have a cost tariff of £325.49

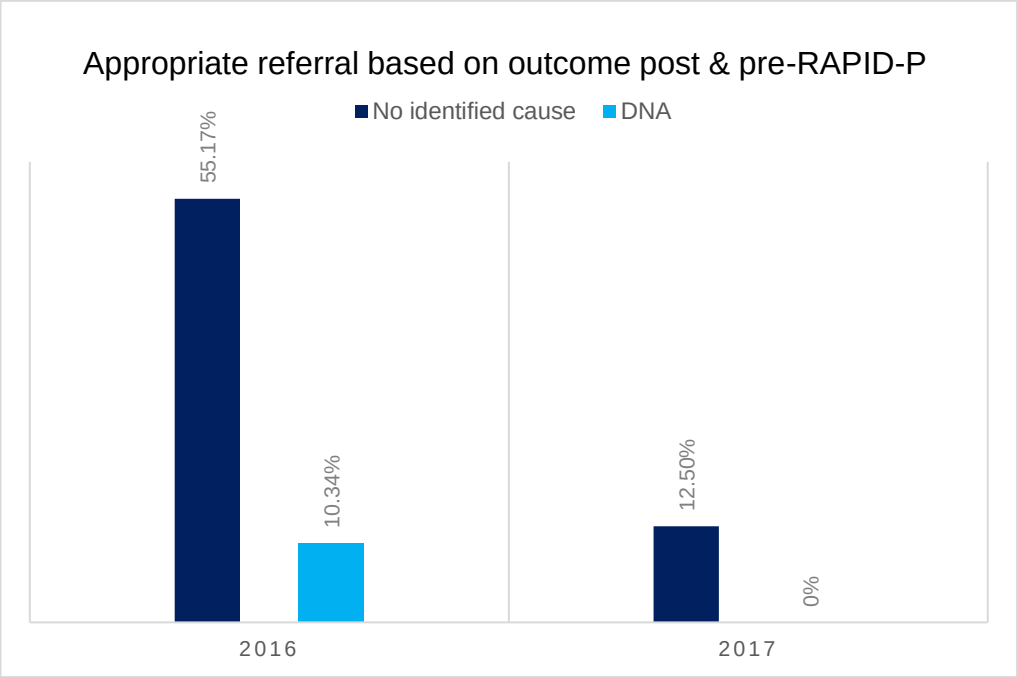
Following this model, a 42.67% reduction in 'no identified cause outcomes' potentially arising from inappropriate referrals has been achieved.
This would provide a financial saving.

Scaled up this cost savings would be expected to be significant.

2016 data identifies three non-attenders, incurring an unnecessary incurred tariff spend of £976.47.

2017 RAPID-P consistently showed very low non-attendance and in the tracked eight patients, had no non-attenders.

Comparison between this data set provides a cost saving of £976.47 (non-attenders plus savings gained from outcomes of 'No Identified Cause'.
However, we are aware this is currently based on early data with low numbers.



- **Work burden**

Initial data from RAPID-P based on:

1. Reduction in initial GP appointments
2. Reduction in number of subsequent appointments prior to referral
3. Appropriate triaging on completion of RAPID-P

Evidence indicates GP appointment burden saving.

Summary: Early data indicates

- ✓ RAPID-P enable cost savings arising from:
  - Reduced GP appointments
  - Efficient triaging
  - Reducing time to referral and thus reducing need for multiple GP appointments

- ✓ Work burden on GP appointments has also been reduced

The RAPID-P portal has been built, tested and made 'Live'. As such, it is already available for anyone to access and complete the questionnaire and then download the recommendation to take to their GP service.

When RAPID-P is 'adopted' by a practice / CCG / NHS Trust, the generated reports are auto-emailed to the user's GP, and where identified and required, the patient's selected referral centre.

A cost to upload local / regional information to enable the automated emailed recommendations, and practice staff training costs, is incurred.

A business plan is in development customised to individual, group and regional adoption.

Adoption costs are based on practice / CCG population levels, and include training, awareness support materials, maintenance and a support helpline.

Figures are being worked on, but we would like to continue to measure cost savings for a further 6-9 months to secure increased figures and for reliability.

We are expecting to work with cluster groups and CCGs to deliver a cost effective, measured benefit to the management of suspected upper GI malignancy.

To provide this, we recognise the need to

- Collect increased data based on greater numbers

- Trial across a larger population, most likely at CCG level

Our intention is to secure this though partnering with one-two interested CCGs, and secure grant funding to support the feasibility study required for the work on this.

Part 4: Learning from your project

Acheivements

The original objectives were to:

1. Develop a patient questionnaire that had a clinical embedded algorithm, under pinned by NICE NG12, to assess signs and symptoms indicating possible upper GI malignancy

2. To test the questionnaire for:

- Clinical accuracy to triage patients according to signs, symptoms and recorded medical history
- Usability by patients
- Language requirements
- What other information would be helpful

3. To trial, initially via a website tool (Survey Monkey) and I-pads, the implementation and uptake of this approach

4. Following trial and review develop a dedicated online portal for RAPID-P

5. Test uptake and effectiveness of RAPID-P portal, measuring:
    - Uptake
    - Completion
    - Patient satisfaction
    - Effectiveness at accurately triaging
    - Reduction impact on related GP appointments / work burden
    - Subsequent levels of referral
    - Accuracy of identified patents to be referred
    - Time from presentation to referral for diagnostic testing
    - Time from referral to confirmed diagnosis

During the pilot period, we successfully achieved the listed objectives.

A key enabler to achieve this was the skill set of the team, which provided:

- Specialist medical advice, in particular from Dr Pam Rawal
- Practice staff training and continued engagement
- Sensitive and beneficial patient engagement
- Expert IT modelling and algorithm embedding
- Capturing of informative data

Increased patient awareness and access to internet and confidence to use IT, supported by on-going practice initiatives across the Westcliffe Group, such as:

- Online appointment booking
- Text message communication
- Practice website regular communications

Had already initiated a culture willing to embrace IT inclusion in the management of their health

Practice staff and proactive Practice Patient Groups were experienced in being part of innovative initiatives across the practice, and were welcoming of this pilot. In particular, admin and referral staff.

Enables that supported this included, training and group meetings that invited involvement and feedback. Practice admin staff also commented on the benefit of training upskilling their roles.

Regular updates and communication on progress / challenges both informal and via the monthly group meetings and practice group training sessions kept focus on RAPID-P. Seeking practice staff feedback and input, generally increased engagement as individuals recognised our value of their involvement within the pilot.

Early data indicates

- ✓ RAPID-P enable cost savings arising from:
  - Reduced GP appointments
  - Efficient triaging
  - Reducing time to referral and thus reducing need for multiple GP appointments

- ✓ Work burden on GP appointments has also been reduced

Challenges:
Initially, some practice GPs highlighted time issues to their engagement with RAPID-P.
Dedicated training and update sessions within regular meetings helped to address this.
Introduction of updates including sharing practice by practice achievements with implementation and uptake of RAPID-P proved very successful with some of the practices. However, for GPs in particular, workload continued to be a challenge.

Change in staff and Locum support was difficult to identify in advance and raised awareness, training and adoption of RAPID-P challenges.

Changing behaviour patterns continued to be an on-going challenge throughout the project. Levers mentioned above, helped, but identifying named staff who took responsibility and were empowered through training and request, to support uptake, was essential. From website updates and distribution of patient information, to encouraging and sign posting patients to RAPID-P. Practice 'champions' were key.

As the project progressed to introduction of website portal, clarity on procedure was critical.
The sharing of the RAPID-P Standard of Operation Policy/Procedure (SOP), was both essential for governance and to support implementation of pathway.

Frequent review was essential, and potentially may have been more beneficial if it had been possible to carry out weekly rather than monthly. However, challenges in time, manpower, access to the appropriate data and staff availability, especially during holiday periods, made this too difficult to achieve.

Tracking: on reviewing first quarter data from RAPID-P portal, we identified challenges in tracking some individuals. This subsequently is informing updates to the SOP and coding applied, but did restrict comprehensive tracking of some patients. We were very disappointed but know we are able to redress the issue.

Timescale:
In the available timescale, we are very pleased with the project's achievements. However, we recognise that we have only been able to review first quarter data from the 'live' portal, and need to complete at least a further six months of review to feel confident of building a robust business case.

Tracking, in particular of diagnosis and adoption of treatment incur a time delay. Reviewing first quarter data, we could only track to 30 May 2017, to ensure the majority of patients reviewed also had their confirmed diagnosis reported.

Specific learning:
Communication is critical across implementation and uptake.

Involvement of *all* staff brings benefits across the board, to the project, individual staff development and establishing behaviour change levers.

The pilot must have a recognisable benefit on work burden.

Cost saving is not enough to ensure uptake if cost implementation is high or complex.

If the project was repeated, increasing frequency of tracking and review to weekly, would be helpful in identifying unforeseen challenges.

Part 5: Sustainability and spread

RAPID-P is now embedded in practice and will definitely continue beyond the pilot and provide further data supporting time, workload, cost and patient experience.

Now built and supported by Standard of Operations Protocol, RAPID-P is very easy to use, and is already indicating benefits across all original objectives.

Within the partner practices, the business case is clear.

Training, awareness and patient uptake via the web portal will require continued support. We have been considering opportunities to maintain this and are in the process of developing strategies. These include:

- On-going internal updates via e-communications and practice meetings
- Support of identified practice staff to liaise with, be the point of call for encouraging and responding to queries
- Promotion within local press, pharmacy and patient communications
- Text communication, further posters and inclusion of sign posting to this option on the telephone list of options

RAPID-P concept readily lends itself to other areas where signs and symptoms are the key decision markers to recommending referral, without necessary clinical examination. The team are looking at the spread of RAPID-P to other suitable cancers and disease areas.

As we collate more data, we are preparing two applications:

1. For NICE endorsement
2. For NICE device review

We are preparing an application to apply for CE approval.

Our intention is to apply for SBRI 2017 autumn round funding to seek funding, initially for a six-month feasibility study testing scaling up RAPID-P. A successful bid would enable us partnering with one, or possible two, Clinical Commissioning Groups, third sector and supportive Academic Health Science Network.

If successful, the six-month feasibility would make us eligible to apply for a substantial three year grant enabling the scaling up of RAPID-P to indefinite numbers of CCGs / practices, and also expand to establish RAPID-P protocol portals for other health / cancers.

In 2018, with the expectation of increased and supportive data, we are intending to apply for NHS Innovations Fellowship. We firmly believe RAPID-P not only supports implementation of NICE guidelines, but in the method of doing so,

reduces work burden, enables cost savings and improves patient pathway and experience.

On-going communications with several Clinical Commissioning Groups (CCGs) who have been identified within an STP of prioritising improvement in the early detection and diagnosis of cancer, is supporting working towards a partnership to trial scale-up across the larger population and diverse settings of a CCG.

We are beginning communication about the project with Academic Health Science Networks (AHSNs), to identify those who have identified detection and early diagnosis of cancer as a priority work area.

Communication with a regional service implementation lead for a national cancer charity has been very positive, and with the early data now available, we are working to include their partnership in the next stage of scaling-up.

Appendix 1: Resources and appendices

Attached:

Standard of Operating Procedure

Awareness poster

Patient questionnaire

Poster – to follow