Evaluation, Research and Development Unit

Final report

NCAT/Cancer Networks Supporting Primary Care

Dr Ingrid Ablett-Spence
Dr Jen Howse
Prof Greg Rubin
<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.4.2</td>
<td>Any Intervention - Change in Conversion and Detection Rates</td>
<td>39</td>
</tr>
<tr>
<td>4.4.3</td>
<td>Audit &amp; Plans Intervention Groups - Comparison to England Average</td>
<td>40</td>
</tr>
<tr>
<td>4.4.4</td>
<td>Audit &amp; Plans Intervention Groups - Change in Conversion and Detection Rates</td>
<td>46</td>
</tr>
<tr>
<td>4.4.5</td>
<td>RAT Intervention Groups - Comparison to England Average</td>
<td>47</td>
</tr>
<tr>
<td>4.4.6</td>
<td>RAT Intervention Groups - Change in Conversion and Detection Rates</td>
<td>59</td>
</tr>
<tr>
<td>4.5</td>
<td>Conversion and Detection Rates Comparison</td>
<td>60</td>
</tr>
<tr>
<td>4.5.1</td>
<td>Any Intervention</td>
<td>60</td>
</tr>
<tr>
<td>4.5.2</td>
<td>Audit &amp; Plans Intervention Groups</td>
<td>61</td>
</tr>
<tr>
<td>4.5.3</td>
<td>RAT Intervention Groups</td>
<td>62</td>
</tr>
<tr>
<td>4.6</td>
<td>Conclusion</td>
<td>65</td>
</tr>
<tr>
<td>5</td>
<td>Primary Care Initiatives: qualitative findings</td>
<td>67</td>
</tr>
<tr>
<td>5.1</td>
<td>Awareness</td>
<td>67</td>
</tr>
<tr>
<td>5.2</td>
<td>Education</td>
<td>72</td>
</tr>
<tr>
<td>5.3</td>
<td>Awareness and education for other practice staff</td>
<td>79</td>
</tr>
<tr>
<td>5.4</td>
<td>Practice Visits</td>
<td>81</td>
</tr>
<tr>
<td>5.5</td>
<td>Audit</td>
<td>85</td>
</tr>
<tr>
<td>5.6</td>
<td>Risk Assessment Tools (RAT)</td>
<td>89</td>
</tr>
<tr>
<td>5.7</td>
<td>Communication</td>
<td>93</td>
</tr>
<tr>
<td>5.8</td>
<td>Pathways</td>
<td>95</td>
</tr>
<tr>
<td>5.9</td>
<td>Safety netting</td>
<td>98</td>
</tr>
<tr>
<td>5.10</td>
<td>Leadership</td>
<td>100</td>
</tr>
<tr>
<td>6</td>
<td>Case studies</td>
<td>107</td>
</tr>
<tr>
<td>6.1</td>
<td>Central South Coast Cancer Network (CSCCN)</td>
<td>107</td>
</tr>
</tbody>
</table>
Executive Summary

The National Awareness and Early Diagnosis Initiative was launched in 2008 in order to understand and address the reasons for late diagnosis of cancer in England. In 2010 a model for GP leadership was established within Cancer Networks to support NAEDI initiatives in primary care. During 2011/12 Cancer Networks initiated a range of local improvement and GP leadership initiatives, reflecting their specific needs and priorities.

This programme of activities was evaluated using the method of realistic evaluation. This approach explores the relationship between the outcomes (intended and unintended consequences), mechanisms and contexts of a programme. In order to illuminate if and why certain elements of the 2011/12 initiative resulted in particular outcomes. The intention was to understand ‘what worked for whom and in what circumstances’.

We found that networks had put in place a wide range of initiatives in primary care, many of which were mediated by GP leads. Key mechanisms included Network leadership and project administration, and the encouragement of dialogue between GPs in and between practices. In addition, some networks appeared to have accessed alternative source of support, such as Macmillan Cancer Support. Much of the context in which Networks were operating, with major changes to NHS structures, loss of posts and loss of continuity, was common to all but was a more prominent issue for some. The strong leadership provided by the National Cancer Action Team was a key contextual factor which drove the programme of work forward in the face of this.

Implementing NAEDI initiatives in primary care through this programme of support has resulted in a substantial level of engagement with measurable benefits. Participation in any NAEDI initiative was reported for 55% of all practices. Against a background increase of 17% in urgent referrals for suspected cancer, practice participation in any NAEDI initiative resulted in a greater increase in urgent referrals for suspected cancer, and a smaller proportion of cancer patients being diagnosed through less favourable pathways such as emergency presentation or routine referral.

We identified wide-ranging engagement of networks with primary care, with GP leads playing a critical role in the process. NAEDI initiatives facilitated by them have had a demonstrable and significant impact on patient care. Current changes to the nature of Cancer Networks and commissioning pose a significant threat to securing this improvement for the future.
1 Background and introduction

The National Awareness and Early Diagnosis Initiative was launched in 2008 in order to understand and address the reasons for late diagnosis of cancer in England. In 2010 a model for GP leadership was established within Cancer Networks to support NAEDI initiatives in primary care, in particular the introduction of GP Practice Cancer Profiles. An evaluation was commissioned by NCAT for 2010/11, which consisted of an impact evaluation based on the RE-AIM model. Data was collected via telephone interviews with key informants and activity logs maintained by the Cancer Network GP leads. A final report was produced in December 2011.

The 2011/12 proposals for local improvement and GP leadership included a range of projects across the country. Each project related to the needs and priorities identified within the Cancer Network. For 2011/12 we were asked to evaluate the implementation and impact of this programme of work, entitled NAEDI / Cancer Networks Supporting Primary Care. This evaluation extends the work undertaken in 2010/11 at the request of the National Cancer Action Team.

The evaluation proposal was agreed by the Supporting Primary Care Advisory Group. We present here the final report.
2 Methods

We used the method of realistic evaluation (Pawson and Tilley 1997). This theory-driven approach explores the relationship between the outcomes (intended and unintended consequences), mechanisms and contexts of a programme by mapping out and then testing the ‘programme theory’. A realistic approach helps to illuminate if and why certain elements of the 2011/12 initiative resulted in particular outcomes. It helps the commissioner of the research to understand ‘what worked for whom and in what circumstances’ and is increasingly being recognised as a valuable approach to understanding how particular preconditions make intended outcomes more or less likely.

The evaluation is made up of the following components:

1. An updating of the 2010/11 logic model, this time with a focus on the introduction of GP leadership as the central development in question. This was done with key stakeholders and members of the Advisory Group

2. An exploration of the mechanisms that each area put in place through the leadership programme, to develop an understanding of the context in which these mechanisms have been put in place. This was done through one to one interviews with GP leads, Network directors and other key informants in each Network. Participants were invited from all 24 Cancer Networks not participating in the case studies. Purposive sampling was used to ensure that a range of different roles and Networks were represented. The initial invitation was sent from the research team to all potential participants by email and interviews arranged with those responding. Where it was felt that participation from certain Networks or individuals was needed to ensure that a wide range of participation, further requests to participate were sent from the research team. This was supported by encouragement from the national team to participate.

25 interviews were carried out by telephone between January and July 2012. These were recorded and transcribed for analysis. Interviews lasted between 15 and 52 minutes, with most lasting around 30 minutes. They covered similar areas to the one to one interviews in the case studies, aiming to explore the mechanisms, context and outcomes of the leadership programmes within the Cancer Networks. 23 of the 24 Cancer Networks invited were represented in these interviews. GP leads accounted for 14 of the interviews. 4 Network directors and 4 public health consultants participated. The remaining three participants were project managers and other team members. Some of the Networks were represented
Transcripts of the interviews have been produced and a selection of transcripts have been analysed by two members of the research team in order to identify themes and construct a framework and context, mechanisms and outcomes have been identified and discussed within the research team. The analysis of the interviews is continuing with the framework being applied to further transcripts. Interviews were fully transcribed, and analysed using a Framework Analysis approach (Pawson and Tilley 1997). Framework analysis is an approach to analysis developed for applied policy research, which allows the exploration of issues of interest as well as allowing for new issues to emerge. Transcripts were read by two members of the research team in order to identify themes and construct a framework; the framework was then applied to all transcripts systematically. The team then reviewed the transcripts and themes to ensure consistency and agreement of interpretation. We also carried out documentary analysis of meeting notes, activity logs, practice plans and other materials used by the Networks. This work built upon and amplified what is already known of the context and mechanisms in each Network from our previous evaluation work.

3. We undertook four detailed case studies of individual Cancer Networks. These were selected in consultation with NCAT to understand in greater depth a range of approaches to the implementation of GP leadership. The criteria for selection of case studies reflected:
   a. The aspect of primary care at which the interventions were being directed (e.g. educational, consultation-based, integration with planned care)
   b. The type of leadership model being employed
   c. The stage of development of the Network’s engagement with primary care

The initial case study interviews took place in Feb/Mar 2012. All four Networks were visited and a total of 30 1:1 interviews were conducted. Each Network presented 6-9 key informants to be interviewed. Informants came from a range of professional backgrounds and included GP Leads, Network Directors, Programme Leads, Public Health, Secondary Care, Commissioning and other Network staff. Each interview took approximately one hour. Informants were contacted mid-point between interviews to identify any changes, in most instances nothing much had changed at that point. The second set of interviews took place in June/July, when 27 1:1 interviews were carried out. In this round of interviews there was 1 new informant who had not been interviewed initially, 2 informants declined to participate in the second set of interviews as they felt they had nothing new to contribute and a further 2 of the original informants were unable to participate due to long term sick and maternity
leave respectively. In addition to the interviews, documentary evidence relating to the projects such as project plan, notes and strategies were also reviewed and analysed.

4. In collaboration with Trent Cancer Registry, data on outcomes relevant to the NAEDI were collected and analysed. The items of interest were selected based on significance, feasibility of extraction, and availability at quarterly intervals for a sufficient period to allow time series analysis. They included 2WW referral rate, conversion and detection rate. Data was analysed by type of intervention (e.g. use of risk assessment tool). An exploratory analysis using selected interventions and outcomes in 1-2 Cancer Networks informed the full analysis.

5. Three Networks undertook an additional evaluation of their own. These are summarised in Appendix 1

Ethics approval was gained from the School of Medicine, Pharmacy and Health Ethics committee. The approval letter is included in Appendix 2.

2.1 Logic model development
To inform the evaluation, a logic model was developed. Logic models are used to describe the expected inputs, activities, outputs and outcomes of an initiative and the way they are expected to relate to each other. This ‘map’ of the initiative can be used to measure results of the programme (Kaplan & Garnet, 2005). This tool has been use to evaluate community based initiatives’ (Kaplan & Garnet, 2005)(Fielden, Rusch, Mosinda et al, 2007) and for performance management (Millar, Simeone & Carnevela, 2001).

A logic model was developed for the 2010-11 evaluation of the practice profiles initiative by analysing the documents produced prior to the release of the profiles. These included emails, minutes of meetings and reports. This model was revised for the 2011-12 evaluation to reflect the wider scope of the initiatives being undertaken in practices and with a focus on the introduction of GP leadership as the central development in question. The model was presented to and discussed by the advisory group and was agreed to represent the expected activities and outcomes of the initiative

The logic model is shown in figure 1.
Figure 1: Logic model
3 Practice Interventions

3.1 Summary of Practice Interventions
In December 2011 returns were received for 8134 practices, 3033 (37%) of which had engaged in at least one activity. Engagement had increased to 55% by March 2012, with 4191 of the 7638 practice for which returns were submitted participating in one or more activity. 28 Networks returned data on activities in practices in December, with 24 returning information in March.

In England as a whole, participation was highest for activities linked to the local, regional or national awareness campaigns, including practice preparation for the public response. Primary care cancer audit and significant event analysis were also widely taken up (Table 1).

Table 1: Practice activity

<table>
<thead>
<tr>
<th>All Networks</th>
<th>Dec Return</th>
<th>March return</th>
<th>No of Networks reporting activity (n=24)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of practices</td>
<td>8134</td>
<td>7638</td>
<td></td>
</tr>
<tr>
<td>Practice not engaged in any activity</td>
<td>5101 63%</td>
<td>3447 45%</td>
<td></td>
</tr>
<tr>
<td>No. of practices engaged in at least one activity</td>
<td>3033 37%</td>
<td>4191 55%</td>
<td></td>
</tr>
<tr>
<td>Novel diagnostic pathways</td>
<td>579 7%</td>
<td>216 3%</td>
<td>9</td>
</tr>
<tr>
<td>Implementation of guidelines</td>
<td>872 11%</td>
<td>1137 15%</td>
<td>15</td>
</tr>
<tr>
<td>Action to reduce delays</td>
<td>343 4%</td>
<td>665 9%</td>
<td>15</td>
</tr>
<tr>
<td>Process mapping and redesign</td>
<td>255 3%</td>
<td>408 5%</td>
<td>9</td>
</tr>
<tr>
<td>Case finding</td>
<td>231 3%</td>
<td>267 3%</td>
<td>10</td>
</tr>
<tr>
<td>Other</td>
<td>82 1%</td>
<td>126 2%</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>934 11%</td>
<td>1250 16%</td>
<td>18</td>
</tr>
<tr>
<td>Population based</td>
<td>1268 16%</td>
<td>987 13%</td>
<td>14</td>
</tr>
<tr>
<td>Linked to local, regional or national campaign</td>
<td>1548 19%</td>
<td>2415 32%</td>
<td>22</td>
</tr>
</tbody>
</table>
By March 2012, practice engagement with any form of initiative ranged from 13% and 100% between Networks. Seven Networks reported that they had 100% of practices participating in at least one activity. 5 of these had 100% returns for either practice preparation for the media campaigns or awareness raising linked to local, regional or national campaigns. It is not clear to what extent |

<table>
<thead>
<tr>
<th>Practice preparedness for campaign</th>
<th>1356 17%</th>
<th>1795 24%</th>
<th>17</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other</td>
<td>325 4%</td>
<td>208 3%</td>
<td>11</td>
</tr>
<tr>
<td>Total</td>
<td>2049 25%</td>
<td>2691 35%</td>
<td>23</td>
</tr>
</tbody>
</table>

| Safety netting                    | 185 2%   | 717 9%   | 14 |
| Development of training resources | 126 2%   | 999 13%  | 16 |
| Appraisal and revalidation        | 120 1%   | 226 3%   | 8  |
| Different target groups with in health professionals | 114 1% | 217 3% | 13 |
| Other                             | 174 2%   | 350 5%   | 9  |
| Total                             | 506 6%   | 1547 20% | 21 |

| In response to information        | 578 7%   | 990 13%  | 18 |
| Action to implement safety netting| 164 2%   | 280 4%   | 11 |
| Practice Plans                    | 259 3%   | 393 5%   | 16 |
| Other                             | 223 3%   | 133 2%   | 9  |
| Total                             | 838 10%  | 1207 16% | 22 |

| Existing Audit tool               | 1031 13% | 1481 19% | 23 |
| SEA                               | 546 7%   | 761 10%  | 19 |
| Other                             | 84 1%    | 128 2%   | 9  |
| Total                             | 1345 17% | 1724 23% | 24 |

| Risk assessment tool              | 183 2%   | 1104 14% | 20 |
| Risk profiles                     | 106 1%   | 312 4%   | 6  |
| Other                             | 1 0%     | 224 3%   | 2  |
| Total                             | 239 3%   | 1301 17% | 21 |
extent practices were actively involved in these initiatives beyond being sent materials related to the campaigns. However in one Network the response of practices to distribution of campaign support material was checked by a team of volunteers visiting practices to ensure that these materials were being displayed in waiting areas. One Network had 100% participation in the implementation of guidelines. The remaining Network with 100% participation simply reported that a range of different activities were being undertaken by practices, with no single initiative being taken up by every practice.

3.2 Referral pathways and access to diagnostics
Actions involving referral pathways and access to diagnostics were undertaken by 16% of practices that were included in the May return. 6 Networks reported that they did not undertake any activities relating to this area.

Implementation of guidelines was the most frequently reported, with 15 Networks reporting that some practices had participated. 100% of practices in one Network participated in the implementation of new colorectal referral guidelines and proformas.

Novel diagnostic pathways included initiatives such as direct access to chest x-rays or flexi-sigmoidoscopy.

3.3 Awareness raising
Awareness raising was carried out in the majority of Networks with 23 of the 24 reporting some awareness activities and 35% of practices participating. The majority was linked to local or national campaigns and preparedness for those campaigns. Several Networks reported 100% participation in these activities. While all practices may have been sent information regarding the campaigns it may not always be clear how many actively used the material distributed. However one Network used a team of volunteers to visit practice to ensure that the relevant material was being displayed in waiting areas.

Population based awareness raising was reported in 14 Networks where there was found to be a local need. These included campaigns targeted at Gypsy and Traveller communities, older women in relation to breast screening and head and neck cancer targeting middle-aged men.

3.4 Continuing professional development
21 Networks reported that some activity was undertaken regarding continuing professional development. This was most commonly in the development of training resources, one Network sent out resource packs to all practices containing a range of materials including referral guidance and forms, top tips, lists of useful resources and other relevant materials. Continuing professional
development relating to safety netting was undertaken by practices in 14 Networks. The activities included in this included groups of practices developing electronic templates to be used in consultations and also in relation to screening.

Most of the activity related to GPs, however 13 Networks targeted other groups with in practices, this was most commonly training for receptionists. Practice nurses were also included in initiatives in this category.

3.5 Organisational development

Initiatives falling within this category were the least frequently reported with 16% of practices participating. While the overall numbers were lower that with other categories, 22 of the 24 Networks reported at least one practice participated. Activities in response to information were undertaken in 18 Networks. This was usually in response to a practice profile, although sometimes further local data was included with the profile. Development of practices plans and action to implement safety netting were common responses to practice visits.

3.6 Audit

Audit was the only category where at least one practice in every Network in the March return participated. Nearly a quarter of all practices carried out some form of audit. 23 of the 24 Networks used an existing criterion-based tool, usually the RCGP audit. Participation rates reached 45% in one Network. Significant event audits were carried out by practices in 19 Networks. The highest participation rate in any Network was 46%. Other forms of audit were used in 9 other Networks in smaller numbers, the largest participation rates were for a Network wide audit of new diagnosis of head and neck cancers.

3.7 Clinical decision making

Risk assessment tools (RAT) were widely utilised as a practice initiative, with 20 Networks reporting some activity in association with them. Reported uptake reached 100% in some Networks. As with awareness raising it is not always clear whether practices who received the RAT material were using it. However, one Network incorporated the RAT into the 2-week wait referral proforma for colorectal cancer, making 100% participation credible.
4 – Comparison of cancer waiting time (CWT) data across different practice intervention groups

This part of the evaluation was carried out by Trent Cancer Registry.

Over recent years, there have been a number of NAEDI practice interventions, aimed at understanding current referral practices and improving future referral practices. This analysis considers cancer waiting times (CWT) data in order to assess how these practice interventions have affected referral activity.

This report considers three types of practice intervention:

- Practice plans
- Audit (two types – ‘existing’ (criterion based clinical audit) and SEA [significant event audit])
- Risk assessment tool (RAT) activities

Cancer Networks provided information on the types of interventions used in their GP practices. Using this information, all practices were grouped according to the combination of intervention types used, as follows:

Table 2: GP practice groups, according to combinations of intervention(s), with number of GP practices in each intervention group

<table>
<thead>
<tr>
<th>Practice Group</th>
<th>Practice plans</th>
<th>Existing audit</th>
<th>SEA audit</th>
<th>Risk assessment tool</th>
<th>Number of Practices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any intervention</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>2,129</td>
</tr>
<tr>
<td>No intervention</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>4,940</td>
</tr>
<tr>
<td>A - plans &amp; both audits</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>142</td>
</tr>
<tr>
<td>B - plans &amp; Existing audit</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>54</td>
</tr>
<tr>
<td>C - plans &amp; SEA audit</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>287</td>
</tr>
<tr>
<td>D - both audits</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>19</td>
</tr>
<tr>
<td>E - plans</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>101</td>
</tr>
<tr>
<td>F - Existing audit</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>749</td>
</tr>
<tr>
<td>G - SEA audit</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>212</td>
</tr>
<tr>
<td>H - none</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>5,505</td>
</tr>
<tr>
<td>Y - RAT</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Yes</td>
<td>942</td>
</tr>
<tr>
<td>Z - no RAT</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>No</td>
<td>6,127</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7,069</td>
</tr>
</tbody>
</table>

The ‘no intervention’ (H) group and ‘no RAT’ (Z) group have the greatest number of GP practices. The most common intervention group is for practices with an ‘existing’ audit only (group F); the least common intervention group is for practice having both practice plans and ‘significant event audits’ (SEA) (group C).
The analysis investigates differences between the interventions groups in terms of the cancer waiting times metrics; referral rates, conversion rates and detection rates. Comparisons are made against the national average for two periods; the before interventions period, from April 2009 to March 2010, and the after period, from June 2011 to July 2012.

4.1 Methods
Cancer Waiting Times data, obtained from the Department of Health, are used to obtain the number of urgent GP referrals for all suspected cancers from April 2009-June 2012, based on “Date First Seen”, and the number of cancers receiving a first treatment during the same period, based on “Treatment Start Date”. These figures are used to calculate referral rate, conversion rate and detection rate, which are defined as:

- Referral rate (number of urgent GP referrals relative to list size)
- Conversion rate (percentage of urgent GP referrals resulting in a cancer diagnosis)
- Detection rate (percentage of cancers resulting from an urgent GP referral)

Based on 2008/09 and 2010/11 QOF list sizes and Attribution Dataset (ADS) populations from 2009 and 2011, practices with significant changes in practice list size (eg. closure or merger) were excluded from the analyses. Practices with list sizes of less than 1000 were also excluded. In total, 1,160 GP practices in the 2008/09 QOF data were removed from the analysis; 298 of these GP practices had an audit, practice plan or risk assessment tool intervention. A further 8 practices with a recorded intervention were excluded because they were not in the 2008/09 QOF data.

Analysis considers two periods; the before interventions period, from April 2009 to March 2010, and the after period, from June 2011 to July 2012. These periods are not exclusively before and after all interventions, but are as close as possible considering the available data; a number of audits were started and some completed prior to March 2010, but this is the earliest year of useable data as prior to this the data was collected in a different way or was incomplete. Additionally, it is also known that some interventions were only made towards the end of the data period, however it is cannot be determined which were and were not completed earlier than this.

To account for differing age-profiles between practices and over time, referral rates are age standardised. At a GP practice level, the rates were indirectly standardised, by dividing the observed number of referrals by the expected number of referrals based on the age-specific referral rates in England. Results can be compared to the expected England level of 100. At an intervention group level, the rates were directly standardised using the European Standard Population weights, and are presented as rates per 100,000 population.
For age standardised referral rates, the reported p-values are obtained from a z-test, with a null hypothesis that the ratio of the urgent GP referral rate for the before period to the same rate for the after period is equal to 1, representing no change from before to after. For conversion and detection rates, the reported p-values are obtained from a two-sample proportion test, with a null hypothesis of no difference in the rates for the before and after periods.

Analysis of GP practices by intervention group and risk assessment tool (RAT) group considers referrals and diagnoses for all cancers. As the RAT intervention specifically relates to colorectal and lung cancers, analysis by the RAT intervention group also considers referrals and diagnoses for lung and colorectal cancers.

### 4.2 National trends

Overall, there was a statistically significantly increase of 17% in the urgent GP referral rate, from April 2009-March 2010 and June 2011-July 2012. There was also a statistically significant decrease of 3% in the conversion rate and an increase of 3% in the detection rate, between the periods.

For suspected colorectal cancers, the urgent GP referral rate increased statistically significantly by more than a third between the two time periods; with the conversion and detection rates showing a similar trend to all cancers. The decrease in conversion rate was largest for lung cancers (7%).

Table 3: Comparison of referral, conversion and detection rates for England, from before to after intervention periods, by cancer site

<table>
<thead>
<tr>
<th></th>
<th>Before</th>
<th></th>
<th></th>
<th>After</th>
<th></th>
<th></th>
<th>Percentage</th>
<th>P-value</th>
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<tbody>
<tr>
<td></td>
<td>England</td>
<td>LCI</td>
<td>UCI</td>
<td>England</td>
<td>LCI</td>
<td>UCI</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>All Cancers</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Referral</td>
<td>1478.0</td>
<td>1474.8</td>
<td>1481.1</td>
<td>1724.1</td>
<td>1720.8</td>
<td>1727.4</td>
<td>16.7%</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Conversion</td>
<td>13.2</td>
<td>13.1</td>
<td>13.3</td>
<td>10.4</td>
<td>10.4</td>
<td>10.5</td>
<td>-2.8%</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Detection</td>
<td>43.4</td>
<td>43.2</td>
<td>43.6</td>
<td>46.6</td>
<td>46.4</td>
<td>46.8</td>
<td>3.2%</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td><strong>Colorectal Cancer</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Referral</td>
<td>206.9</td>
<td>205.8</td>
<td>208.0</td>
<td>280.3</td>
<td>279.1</td>
<td>281.6</td>
<td>35.5%</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Conversion</td>
<td>8.6</td>
<td>8.5</td>
<td>8.7</td>
<td>6.0</td>
<td>5.9</td>
<td>6.1</td>
<td>-2.6%</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Detection</td>
<td>37.2</td>
<td>36.7</td>
<td>37.7</td>
<td>40.1</td>
<td>39.5</td>
<td>40.6</td>
<td>2.8%</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td><strong>Lung Cancer</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Referral</td>
<td>55.0</td>
<td>54.4</td>
<td>55.6</td>
<td>63.4</td>
<td>62.8</td>
<td>64.0</td>
<td>15.3%</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Conversion</td>
<td>33.6</td>
<td>33.1</td>
<td>34.0</td>
<td>26.3</td>
<td>25.9</td>
<td>26.7</td>
<td>-7.3%</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Detection</td>
<td>39.1</td>
<td>38.6</td>
<td>39.6</td>
<td>41.1</td>
<td>40.5</td>
<td>41.7</td>
<td>2.0%</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

Note: Referral rate is the directly age-standardised referrals rate per 100,000 person population.
4.3 Intervention Groups

4.3.1 Any Intervention

The GP practices were grouped into the any intervention group if they had any of the practice plans, audits or risk assessment tool interventions and the no interventions group otherwise.

Referral Rate

The referral rate in the before period is lowest for the group with no intervention. Despite this, the increase in the referral rate is highest in the group with any intervention at 23%.

Table 4: Comparison of referral rates, by any intervention group, from before to after intervention periods

<table>
<thead>
<tr>
<th>All Cancers</th>
<th>Referral rate before</th>
<th>LCI</th>
<th>UCI</th>
<th>Referral rate after</th>
<th>LCI</th>
<th>UCI</th>
<th>Percentage change</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any Intervention</td>
<td>1432.5</td>
<td>1427.0</td>
<td>1438.0</td>
<td>1766.6</td>
<td>1760.5</td>
<td>1772.7</td>
<td>23.3</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>No Intervention</td>
<td>1423.4</td>
<td>1419.5</td>
<td>1427.2</td>
<td>1728.0</td>
<td>1723.8</td>
<td>1732.2</td>
<td>21.4</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

Note: Referral rate is directly age-standardised rate per 100,000 person population

Figure 2: Comparison of referral rates, by any intervention group, from before to after intervention periods
Conversion Rate

The conversion rate is similar for both groups, in both the before and after periods, with similar decreases between periods in both groups.

Table 5: Comparison of conversion rates, by any intervention group, from before to after intervention periods

<table>
<thead>
<tr>
<th>All Cancers</th>
<th>Conversion rate before</th>
<th>LCI</th>
<th>UCI</th>
<th>Conversion rate after</th>
<th>LCI</th>
<th>UCI</th>
<th>Change</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any Intervention</td>
<td>13.1</td>
<td>13.0</td>
<td>13.3</td>
<td>10.3</td>
<td>10.2</td>
<td>10.5</td>
<td>-2.8</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>No Intervention</td>
<td>13.4</td>
<td>13.3</td>
<td>13.5</td>
<td>10.7</td>
<td>10.6</td>
<td>10.8</td>
<td>-2.7</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

Figure 3: Comparison of conversion rates, by any intervention group, from before to after intervention periods
**Detection Rate**

Detection rates are similar for both groups in both the before and after periods; however, the greatest increase is in the group with any intervention (3.5 percentage points).

Table 6: Comparison of detection rates, by any intervention group, from before to after intervention periods

<table>
<thead>
<tr>
<th></th>
<th>Detection rate before</th>
<th>LCI</th>
<th>UCI</th>
<th>Detection rate after</th>
<th>LCI</th>
<th>UCI</th>
<th>Change</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Any Intervention</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>&lt;0.001</td>
</tr>
<tr>
<td></td>
<td>43.7</td>
<td>43.3</td>
<td>44.0</td>
<td>47.1</td>
<td>46.8</td>
<td>47.5</td>
<td>3.5</td>
<td></td>
</tr>
<tr>
<td><strong>No Intervention</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>&lt;0.001</td>
</tr>
<tr>
<td></td>
<td>43.8</td>
<td>43.6</td>
<td>44.0</td>
<td>46.7</td>
<td>46.5</td>
<td>47.0</td>
<td>2.9</td>
<td></td>
</tr>
</tbody>
</table>

Figure 4: Comparison of conversion rates, by any intervention group, from before to after intervention periods
4.3.2 Audit & Plans Intervention groups

Referral Rate

The referral rate in the before period was highest in the plans and existing audit intervention group B, the rate is also highest in the after period for this intervention group. However, the greatest increase in the referral rate was in the group with plans and both audits (A), increasing by almost a third between the two periods. Referral rates increased across the intervention groups between periods. Increases were statistically significant for all intervention groups.

The lowest referral rate in the before period was in the no interventions group (H). In the after period the existing audit group (F) had the lowest referral rate. However, the smallest increase (15%) in referral rates was in the plans and SEA group (C).

Table 7: Comparison of referral rates, by audit & plans intervention group, from before to after intervention periods

<table>
<thead>
<tr>
<th>All Cancers</th>
<th>Group</th>
<th>Referral rate before</th>
<th>LCI</th>
<th>UCI</th>
<th>Referral rate after</th>
<th>LCI</th>
<th>UCI</th>
<th>Percentage change</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A</td>
<td>1,382.1</td>
<td>1,362.3</td>
<td>1,402.2</td>
<td>1,814.2</td>
<td>1,791.8</td>
<td>1,837.0</td>
<td>31.27</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>1,661.7</td>
<td>1,624.5</td>
<td>1,699.9</td>
<td>2,085.9</td>
<td>2,044.9</td>
<td>2,128.0</td>
<td>25.53</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>1,601.7</td>
<td>1,545.0</td>
<td>1,661.1</td>
<td>1,845.8</td>
<td>1,785.6</td>
<td>1,908.6</td>
<td>15.24</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td></td>
<td>D</td>
<td>1,430.2</td>
<td>1,415.1</td>
<td>1,445.6</td>
<td>1,776.4</td>
<td>1,759.7</td>
<td>1,793.4</td>
<td>24.21</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td></td>
<td>E</td>
<td>1,426.2</td>
<td>1,401.0</td>
<td>1,452.0</td>
<td>1,800.4</td>
<td>1,772.2</td>
<td>1,829.1</td>
<td>26.24</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>1,448.0</td>
<td>1,438.6</td>
<td>1,457.4</td>
<td>1,727.0</td>
<td>1,716.9</td>
<td>1,737.2</td>
<td>19.27</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td></td>
<td>G</td>
<td>1,610.9</td>
<td>1,592.2</td>
<td>1,629.9</td>
<td>1,984.3</td>
<td>1,963.7</td>
<td>2,005.1</td>
<td>23.18</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td></td>
<td>H</td>
<td>1,413.2</td>
<td>1,409.6</td>
<td>1,416.9</td>
<td>1,722.6</td>
<td>1,718.6</td>
<td>1,726.6</td>
<td>21.89</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

Note: Referral rate is directly age-standardised rate per 100,000 person population

Figure 5: Comparison of referral rates, by audit & plans intervention group, from before to after intervention periods
**Conversion Rate**

The conversion rate in the before period was lowest in intervention groups B (plans and existing audit) and C (plans and SEA audit). In the after period, conversion rates were also lowest in this latter group and highest in the plans intervention group (E).

The greatest change (-4 percentage points) in conversion rate was in the plans and both audits intervention group (A). The smallest change (-1.5 percentage points) in conversion rate was in the plans and existing audit group (B).

Table 8: Comparison of conversion rates, by audit & plans intervention group, from before to after intervention periods.

<table>
<thead>
<tr>
<th>Intervention group</th>
<th>All Cancers Group</th>
<th>Conversion rate before</th>
<th>LCI</th>
<th>UCI</th>
<th>Conversion rate after</th>
<th>LCI</th>
<th>UCI</th>
<th>Change</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>13.7</td>
<td>13.3</td>
<td>14.2</td>
<td>10.0</td>
<td>9.7</td>
<td>10.4</td>
<td>-3.7</td>
<td>&lt;0.001</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>11.3</td>
<td>10.6</td>
<td>12.0</td>
<td>9.7</td>
<td>9.2</td>
<td>10.3</td>
<td>-1.5</td>
<td>&lt;0.001</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>11.3</td>
<td>10.3</td>
<td>12.5</td>
<td>9.6</td>
<td>8.7</td>
<td>10.6</td>
<td>-1.7</td>
<td>0.02</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>13.3</td>
<td>13.0</td>
<td>13.7</td>
<td>10.6</td>
<td>10.3</td>
<td>10.9</td>
<td>-2.7</td>
<td>&lt;0.001</td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>12.8</td>
<td>12.2</td>
<td>13.4</td>
<td>10.6</td>
<td>10.1</td>
<td>11.0</td>
<td>-2.2</td>
<td>&lt;0.001</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>12.9</td>
<td>12.6</td>
<td>13.1</td>
<td>10.1</td>
<td>9.9</td>
<td>10.3</td>
<td>-2.8</td>
<td>&lt;0.001</td>
<td></td>
</tr>
<tr>
<td>G</td>
<td>12.3</td>
<td>11.9</td>
<td>12.6</td>
<td>9.7</td>
<td>9.4</td>
<td>10.0</td>
<td>-2.6</td>
<td>&lt;0.001</td>
<td></td>
</tr>
<tr>
<td>H</td>
<td>13.5</td>
<td>13.4</td>
<td>13.6</td>
<td>10.7</td>
<td>10.7</td>
<td>10.8</td>
<td>-2.7</td>
<td>&lt;0.001</td>
<td></td>
</tr>
</tbody>
</table>

Figure 6: Comparison of conversion rates, by audit & plans intervention group, from before to after intervention periods.
Detection Rate
The lowest detection rate for the before period was in the plans and existing audit group (B, 43%), with the highest detection rate in plans only group (E, 46%). In the after period, the plans and SEA audit group (C) had the lowest detection rate at 43%, with a decrease in the detection rate.

Group B, which had the lowest detection rate in the before period, had the greatest increase in detection rates at 7 percentage points. This group then had the highest detection rate in the after period, with 52% of cancers diagnosed through the two week wait system.

Table 9: Comparison of detection rates, by audit & plans intervention group, from before to after intervention periods

<table>
<thead>
<tr>
<th>Intervention group</th>
<th>All Cancers</th>
<th>Group</th>
<th>Detection rate before LCI</th>
<th>UCI</th>
<th>Detection rate after LCI</th>
<th>UCI</th>
<th>Change</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>A</td>
<td>44.6</td>
<td>43.3</td>
<td>45.8</td>
<td>47.1</td>
<td>45.8</td>
<td>48.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>B</td>
<td>42.8</td>
<td>40.7</td>
<td>45.0</td>
<td>50.2</td>
<td>48.0</td>
<td>52.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C</td>
<td>43.2</td>
<td>39.9</td>
<td>46.6</td>
<td>42.7</td>
<td>39.4</td>
<td>46.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>D</td>
<td>43.7</td>
<td>42.8</td>
<td>44.6</td>
<td>47.9</td>
<td>46.9</td>
<td>48.9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>E</td>
<td>46.1</td>
<td>44.5</td>
<td>47.7</td>
<td>48.8</td>
<td>47.2</td>
<td>50.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>F</td>
<td>43.0</td>
<td>42.5</td>
<td>43.6</td>
<td>46.7</td>
<td>46.1</td>
<td>47.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>G</td>
<td>43.6</td>
<td>42.5</td>
<td>44.7</td>
<td>46.9</td>
<td>45.8</td>
<td>48.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>H</td>
<td>43.8</td>
<td>43.6</td>
<td>44.0</td>
<td>46.7</td>
<td>46.5</td>
<td>47.0</td>
</tr>
</tbody>
</table>

Figure 7: Comparison of detection rates, by audit & plans intervention group, from before to after intervention periods
4.3.3 RAT Intervention Groups

All Cancers - Referral Rate

The referral rate in the before and after period is lowest for the risk assessment tool intervention group (Y); however, the increase in the referral rate is highest in this group at 26%.

Table 10: Comparison of referral rates, by RAT intervention group, from before to after intervention periods, for all cancers

<table>
<thead>
<tr>
<th>All Cancers</th>
<th>Group</th>
<th>Referral rate before</th>
<th>LCI</th>
<th>UCI</th>
<th>Referral rate after</th>
<th>LCI</th>
<th>UCI</th>
<th>Percentage change</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>RAT</td>
<td>Y</td>
<td>1,387.7</td>
<td>1,379.5</td>
<td>1,395.9</td>
<td>1,740.1</td>
<td>1,731.0</td>
<td>1,749.2</td>
<td>25.39</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td></td>
<td>Z</td>
<td>1,432.9</td>
<td>1,429.4</td>
<td>1,436.3</td>
<td>1,740.8</td>
<td>1,737.0</td>
<td>1,744.5</td>
<td>21.49</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

Note: Referral rate is the directly age-standardised rate per 100,000 person population.

Figure 8: Comparison of referral rates, by RAT intervention group, from before to after intervention periods, for all cancers
All Cancers - Conversion Rate

The conversion rate in both the before and after periods are similar for both RAT intervention groups; however, the decrease in conversion rates is larger for RAT intervention group Y.

Table 11: Comparison of conversion rates, by RAT intervention group, from before to after intervention periods, for all cancers

<table>
<thead>
<tr>
<th>All Cancers</th>
<th>Group</th>
<th>Conversion rate before</th>
<th>LCI</th>
<th>UCI</th>
<th>Conversion rate after</th>
<th>LCI</th>
<th>UCI</th>
<th>Change</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>RAT</td>
<td>Y</td>
<td>13.4</td>
<td>13.2</td>
<td>13.6</td>
<td>10.5</td>
<td>10.4</td>
<td>10.7</td>
<td>-3.3</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td></td>
<td>Z</td>
<td>13.3</td>
<td>13.2</td>
<td>13.4</td>
<td>10.6</td>
<td>10.5</td>
<td>10.6</td>
<td>-2.9</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

Figure 9: Comparison of conversion rates, by RAT intervention group, from before to after intervention periods, for all cancers
**All Cancers - Detection Rate**

Detection rates are similar for both RAT intervention groups in the period before. However, RAT intervention group Y had the greatest increase in detection rate in the after period.

Table 12: Comparison of detection rates, by RAT intervention group, from before to after intervention periods, for all cancers

<table>
<thead>
<tr>
<th>All Cancers</th>
<th>Group</th>
<th>Detection rate before</th>
<th>LCI</th>
<th>UCI</th>
<th>Detection rate after</th>
<th>LCI</th>
<th>UCI</th>
<th>Change</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>RAT</td>
<td>Y</td>
<td>43.8</td>
<td>43.3</td>
<td>44.3</td>
<td>47.3</td>
<td>46.7</td>
<td>47.8</td>
<td>3.4</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td></td>
<td>Z</td>
<td>43.7</td>
<td>43.5</td>
<td>44.0</td>
<td>46.8</td>
<td>46.6</td>
<td>47.0</td>
<td>3.1</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

Figure 10: Comparison of detection rates, by RAT intervention group, from before to after intervention periods, for all cancers
Colorectal Cancer - Referral Rate

The rate of referrals for suspected colorectal cancer was lowest in RAT intervention group Y, in both the before and after period. This group also had the highest increase in referral rate, with an almost 50% increase between the two periods.

Table 13: Comparison of referral rates, by RAT intervention group, from before to after intervention periods, for colorectal cancer

<table>
<thead>
<tr>
<th>Colorectal Cancer</th>
<th>Group</th>
<th>Referral rate before</th>
<th>LCI</th>
<th>UCI</th>
<th>Referral rate after</th>
<th>LCI</th>
<th>UCI</th>
<th>Percentage change</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>RAT</td>
<td>Y</td>
<td>190.5</td>
<td>187.6</td>
<td>193.4</td>
<td>283.9</td>
<td>280.4</td>
<td>287.5</td>
<td>49.03</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td></td>
<td>Z</td>
<td>203.0</td>
<td>201.7</td>
<td>204.2</td>
<td>285.3</td>
<td>283.8</td>
<td>286.8</td>
<td>40.54</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

Figure 11: Comparison of referral rates, by RAT intervention group, from before to after intervention periods, for colorectal cancer
Colorectal Cancer - Conversion Rate

The conversion rate in the before period and after period is similar between intervention groups, with a decrease in conversion rates of around 3 percentage points.

Table 14: Comparison of conversion rates, by RAT intervention group, from before to after intervention periods, for colorectal cancer

<table>
<thead>
<tr>
<th>Colorectal Cancer</th>
<th>Group</th>
<th>Conversion rate before</th>
<th>LCI</th>
<th>UCI</th>
<th>Conversion rate after</th>
<th>LCI</th>
<th>UCI</th>
<th>Change</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>RAT</td>
<td>Y</td>
<td>8.9</td>
<td>8.5</td>
<td>9.4</td>
<td>6.1</td>
<td>5.9</td>
<td>6.4</td>
<td>-2.8</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td></td>
<td>Z</td>
<td>8.7</td>
<td>8.5</td>
<td>8.9</td>
<td>6.0</td>
<td>5.9</td>
<td>6.1</td>
<td>-2.7</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

Figure 12: Comparison of conversion rates, by RAT intervention group, from before to after intervention periods, for colorectal cancer
Colorectal Cancer - Detection Rate

The detection rate is slightly higher in RAT intervention group Y in both the before and after periods, with the greatest increase of 4 percentage points.

Table 15: Comparison of detection rates, by RAT intervention group, from before to after intervention periods, for colorectal cancer

<table>
<thead>
<tr>
<th>Colorectal Cancer</th>
<th>Group</th>
<th>Detection rate before</th>
<th>LCI</th>
<th>UCI</th>
<th>Detection rate after</th>
<th>LCI</th>
<th>UCI</th>
<th>Change</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>RAT</td>
<td>Y</td>
<td>38.0</td>
<td>36.6</td>
<td>39.5</td>
<td>41.9</td>
<td>40.4</td>
<td>43.5</td>
<td>3.9</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td></td>
<td>Z</td>
<td>37.7</td>
<td>37.1</td>
<td>38.3</td>
<td>40.1</td>
<td>39.5</td>
<td>40.7</td>
<td>2.4</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

Figure 13: Comparison of detection rates, by RAT intervention group, from before to after intervention periods, for colorectal cancer
Lung Cancer - Referral Rate

The referral rates for lung cancer are similar across the RAT intervention groups for both the before and after period. The no RAT intervention group Z had the greatest increase in the lung cancer referral rates at 21%.

Table 16: Comparison of referral rates, by RAT intervention group, from before to after intervention periods, for lung cancer

<table>
<thead>
<tr>
<th>Lung Cancer</th>
<th>Group</th>
<th>Referral rate before</th>
<th>LCI</th>
<th>UCI</th>
<th>Referral rate after</th>
<th>LCI</th>
<th>UCI</th>
<th>Percentage change</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>RAT</td>
<td>Y</td>
<td>54.8</td>
<td>53.3</td>
<td>56.5</td>
<td>63.9</td>
<td>62.2</td>
<td>65.6</td>
<td>16.61</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td></td>
<td>Z</td>
<td>52.8</td>
<td>52.1</td>
<td>53.4</td>
<td>63.7</td>
<td>63.0</td>
<td>64.4</td>
<td>20.64</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

Figure 14: Comparison of referral rates, by RAT intervention group, from before to after intervention periods, for lung cancer
**Lung Cancer - Conversion Rate**

The conversion rate for lung cancer is statistically significantly lower for RAT intervention group Y than no RAT intervention group Z in both periods. However, the conversion rate decreased the most in RAT intervention group Y.

Table 17: Comparison of conversion rates, by RAT intervention group, from before to after intervention periods, for lung cancer

<table>
<thead>
<tr>
<th>Lung Cancer</th>
<th>Group</th>
<th>Conversion rate before</th>
<th>LCI</th>
<th>UCI</th>
<th>Conversion rate after</th>
<th>LCI</th>
<th>UCI</th>
<th>Change</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>RAT</td>
<td>Y</td>
<td>31.5</td>
<td>30.2</td>
<td>32.8</td>
<td>23.6</td>
<td>22.5</td>
<td>24.7</td>
<td>-7.9</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td></td>
<td>Z</td>
<td>34.2</td>
<td>33.6</td>
<td>34.7</td>
<td>27.1</td>
<td>26.6</td>
<td>27.5</td>
<td>-7.1</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

Figure 15: Comparison of conversion rates, by RAT intervention group, from before to after intervention periods, for lung cancer
Lung Cancer - Detection Rate

In the before period, detection rates were similar across RAT intervention groups at around 40%. However, in the after period, detection rates are statistically significantly higher in no RAT intervention group Z than RAT intervention group Y, with a statistically significant increase of 2 percentage points.

Table 18: Comparison of detection rates, by RAT intervention group, from before to after intervention periods, for lung cancer

<table>
<thead>
<tr>
<th>Lung Cancer</th>
<th>Group</th>
<th>Detection rate before</th>
<th>LCI</th>
<th>UCI</th>
<th>Detection rate after</th>
<th>LCI</th>
<th>UCI</th>
<th>Change</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>RAT</td>
<td>Y</td>
<td>40.1</td>
<td>38.6</td>
<td>41.7</td>
<td>39.5</td>
<td>37.9</td>
<td>41.1</td>
<td>-0.6</td>
<td>0.59</td>
</tr>
<tr>
<td></td>
<td>Z</td>
<td>39.9</td>
<td>39.3</td>
<td>40.5</td>
<td>42.1</td>
<td>41.4</td>
<td>42.7</td>
<td>2.2</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

Figure 16: Comparison of detection rates, by RAT intervention group, from before to after intervention periods, for lung cancer
4.4 Practice level changes

4.4.1 Any Intervention - Comparison to England Average

Referral Ratio

For the before and after intervention periods, the following analysis calculated the standardised referral ratio (SRR) for each of the GP practices, with England as the reference geography. Table 18 presents the percentage of GP practices in each intervention group with an SRR that was statistically significantly lower (SL), lower (L), higher (H) or statistically significantly higher (SH), than nationally.

In the period before, the group without any interventions had a slightly higher proportion of GP practices with an SRR statistically significantly lower than expected, although the two groups are fairly similar. The group with any intervention had a slightly higher proportion of GP practices (24%) with a statistically significantly higher referral ratio.

In the after period, the group with any intervention had a slightly larger increase in the proportion of GP practices with statistically significantly higher SRR than expected.

Table 19: Percentage of GP practices by comparison of SRR to England average, by any intervention group, for before and after intervention periods

<table>
<thead>
<tr>
<th>All cancers</th>
<th>Before</th>
<th>After</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SL</td>
<td>L</td>
<td>H</td>
</tr>
<tr>
<td>Any intervention</td>
<td>40.4%</td>
<td>18.8%</td>
<td>16.7%</td>
</tr>
<tr>
<td>No intervention</td>
<td>41.8%</td>
<td>20.8%</td>
<td>15.2%</td>
</tr>
<tr>
<td>Total</td>
<td>41.4%</td>
<td>20.2%</td>
<td>15.7%</td>
</tr>
</tbody>
</table>

Figure 17: Standardised referral ratios for GP practices, by any intervention group, for before and after intervention periods
Figure 18: Range in standardised referral ratios, by any intervention group, for before and after intervention periods
**Conversion Rate**

The following analysis calculated the conversion rate for each of the GP practices for the before and after intervention periods.

In the before period, the two groups have similar proportions of GP practices that are either statistically significantly lower or higher than the national average, although both are slightly higher in the group with any intervention.

In the after period, the group with any intervention had the greatest decrease in the proportion of GP practices with a statistically significantly higher conversion rate than the national average.

**Table 20:** Percentage of GP practices by comparison of conversion rate to England average, by any intervention group, for before and after intervention periods

<table>
<thead>
<tr>
<th>All Cancers</th>
<th>Before</th>
<th>After</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SL</td>
<td>L</td>
<td>H</td>
</tr>
<tr>
<td>Any Intervention</td>
<td>9.8%</td>
<td>39.4%</td>
<td>36.3%</td>
</tr>
<tr>
<td>No Intervention</td>
<td>7.5%</td>
<td>40.1%</td>
<td>38.6%</td>
</tr>
<tr>
<td>Total</td>
<td>8.2%</td>
<td>39.9%</td>
<td>37.9%</td>
</tr>
</tbody>
</table>

**Figure 19:** Conversion rates for GP practices, by any intervention group, for before and after intervention periods
Figure 20: Range in conversion rates, by any intervention group, for before and after intervention periods
Detection Rate

The following analysis calculated the detection rate for each of the GP practices for the before and after intervention periods.

In the period before interventions 8% of GP practices had detection rates statistically significantly lower than the national average and 7% had detection rates statistically significantly higher. This reduced slightly to an average of 6% of GP practices that were either statistically significantly higher or lower than the national average.

The proportion of GP practices with a statistically significantly higher or lower than average detection rate is similar across groups for both periods.

Table 21: Percentage of GP practices by comparison of detection rate to England average, by any intervention group, for before and after intervention periods

<table>
<thead>
<tr>
<th>All Cancers</th>
<th>Before</th>
<th>After</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SL</td>
<td>L</td>
<td>H</td>
</tr>
<tr>
<td>Any Intervention</td>
<td>7.4%</td>
<td>44.3%</td>
<td>40.3%</td>
</tr>
<tr>
<td>No Intervention</td>
<td>8.0%</td>
<td>43.7%</td>
<td>41.3%</td>
</tr>
<tr>
<td>Total</td>
<td>7.8%</td>
<td>43.9%</td>
<td>41.0%</td>
</tr>
</tbody>
</table>

Figure 21: Detection rates for GP practices, by any intervention group, for before and after intervention periods
Figure 22: Range in detection rates, by any intervention group, for before and after intervention periods

The Detection Rate for each GP practice by intervention group
Comparison of before period (April 2009 - March 2010) and after period (June 2011 - July 2012)

Detection Rate

Any intervention No intervention

Excludes outliers
4.4.2 Any Intervention - Change in Conversion and Detection Rates

The following analysis compares the GP practice level conversion and detection rates, comparing the rate for the before period to the respective rate for the after period. Table 21 presents the percentage of GP practices in each intervention group with an after period rate which was statistically significantly lower (SL), lower (L), the same, higher (H) or statistically significantly higher (SH) than the same rate in the before period.

When comparing the conversion rates in the after period to the before period, 70% of GP practices showed a decrease in the conversion rate. The proportion of GP practices with a lower conversion rate in the after period compared to the before period is highest in the group with any intervention.

Comparing detection rates across the periods, both groups have similar proportions of GP practices that are either lower or higher than the before period. However, the proportion of GP practices that are statistically significantly lower than the before period is slight lower in the group with any intervention.

Table 22: Percentage of GP practices by change in conversion rate and detection rate from the before to after intervention periods, by any intervention group

<table>
<thead>
<tr>
<th>All Cancers</th>
<th>Conversion</th>
<th>Detection</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SL</td>
<td>L</td>
<td>Same</td>
</tr>
<tr>
<td>Any Intervention</td>
<td>14.5%</td>
<td>59.1%</td>
<td>0.3%</td>
</tr>
<tr>
<td>No Intervention</td>
<td>13.0%</td>
<td>55.4%</td>
<td>1.0%</td>
</tr>
<tr>
<td>Total</td>
<td>13.5%</td>
<td>56.5%</td>
<td>0.7%</td>
</tr>
</tbody>
</table>
4.4.3 Audit & Plans Intervention Groups - Comparison to England Average

**Referral Ratio**

Comparing the intervention groups in the before period, the practice plans group (E) had the highest proportion of GP practices with referral ratios statistically significantly lower than expected (46%), and the plans with existing audits group (B) had the highest proportion of GP practices with referral ratios statistically significantly higher than expected (46%).

In the after period, the existing audit group (F) had the highest proportion of GP practices with a statistically significantly lower referral ratio than expected (39%). The plans with existing audits group (B) remained the group with the highest proportion of GP practices with referral ratios statistically significantly higher than expected (46%).

Comparing the change in the proportion of practices that were statistically significantly higher than the expected referral ratio, the plans and both audits group (A) increased the most at 9%. This group also had the biggest decrease in the proportion of GP practices that had statistically significantly lower than expected referral ratios.

Those practices with no interventions (H) also increased in the proportion of GP practices that had statistically significantly higher referral ratios than expected.

Table 23: Percentage of GP practices by comparison of SRR to England average, by audit & plans intervention group, for before and after intervention periods

<table>
<thead>
<tr>
<th>Intervention group</th>
<th>All cancers</th>
<th>Before SL</th>
<th>Before L</th>
<th>Before H</th>
<th>Before SH</th>
<th>After SL</th>
<th>After L</th>
<th>After H</th>
<th>After SH</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>43.7%</td>
<td>20.4%</td>
<td>15.5%</td>
<td>20.4%</td>
<td>28.2%</td>
<td>19.0%</td>
<td>23.2%</td>
<td>29.6%</td>
<td>142</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>29.6%</td>
<td>13.0%</td>
<td>11.1%</td>
<td>46.3%</td>
<td>14.8%</td>
<td>24.1%</td>
<td>14.8%</td>
<td>46.3%</td>
<td>54</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>26.3%</td>
<td>21.1%</td>
<td>15.8%</td>
<td>36.8%</td>
<td>31.6%</td>
<td>5.3%</td>
<td>26.3%</td>
<td>36.8%</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>40.1%</td>
<td>18.8%</td>
<td>16.7%</td>
<td>24.4%</td>
<td>36.2%</td>
<td>20.9%</td>
<td>13.2%</td>
<td>29.6%</td>
<td>287</td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>45.5%</td>
<td>13.9%</td>
<td>15.8%</td>
<td>24.8%</td>
<td>34.7%</td>
<td>18.8%</td>
<td>13.9%</td>
<td>32.7%</td>
<td>101</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>39.5%</td>
<td>17.4%</td>
<td>18.3%</td>
<td>24.8%</td>
<td>39.3%</td>
<td>16.4%</td>
<td>18.4%</td>
<td>25.9%</td>
<td>749</td>
<td></td>
</tr>
<tr>
<td>G</td>
<td>25.9%</td>
<td>20.8%</td>
<td>18.4%</td>
<td>34.9%</td>
<td>19.8%</td>
<td>16.0%</td>
<td>25.5%</td>
<td>38.7%</td>
<td>212</td>
<td></td>
</tr>
<tr>
<td>H</td>
<td>42.4%</td>
<td>20.9%</td>
<td>15.2%</td>
<td>21.6%</td>
<td>38.1%</td>
<td>18.9%</td>
<td>16.8%</td>
<td>26.3%</td>
<td>5,505</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>41.4%</td>
<td>20.2%</td>
<td>15.7%</td>
<td>22.7%</td>
<td>37.1%</td>
<td>18.6%</td>
<td>17.2%</td>
<td>27.1%</td>
<td>7,069</td>
<td></td>
</tr>
</tbody>
</table>

However, figures 22 and 23 demonstrate only small differences in the standardised referral ratios and their ranges, both between intervention groups and from the before to after period.
Figure 23: Standardised referral ratios for GP practices, by audit & plans intervention group, for before and after intervention periods

Figure 24: Range in standardised referral ratios, by audit & plans intervention group, for before and after intervention periods
**Conversion Rate**

In the before period, the no interventions group (H) had the lowest proportion of GP practices with a statistically significantly lower conversion rate than the national average (7%) and the both audits intervention group (D) had the higher proportion of GP practices with a statistically significantly higher conversion rate than the national average.

In the after period, the no interventions group (H) still had the lowest proportion of GP practices with a statistically significantly lower conversion rate, and the proportion had fallen slightly. Similarly, the both audits intervention group (D) still had the higher proportion of GP practices with a statistically significantly higher conversion rate, increasing slightly between periods.

The proportion of GP practices with statistically significantly higher conversion rates decreased the most in the plans with existing audits group (B), by 11%, whilst intervention group D was the only group to have increases in the proportion of GP practices with a statistically significantly higher conversion rate.

Table 24: Percentage of GP practices by comparison of conversion rate to England average, by audit & plans intervention group, for before and after intervention periods

<table>
<thead>
<tr>
<th>Intervention group</th>
<th>All cancers</th>
<th>Before</th>
<th>After</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SL L H SH</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>9.2% 36.6% 38.7% 15.5%</td>
<td>8.5% 40.1% 43.0% 8.5%</td>
<td>142</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>18.5% 42.6% 27.8% 11.1%</td>
<td>9.3% 50.0% 40.7% 0.0%</td>
<td>54</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>10.5% 63.2% 15.8% 10.5%</td>
<td>10.5% 36.8% 47.4% 5.3%</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>12.9% 29.3% 40.4% 17.4%</td>
<td>10.5% 33.1% 37.6% 18.8%</td>
<td>287</td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>8.9% 36.6% 40.6% 13.9%</td>
<td>6.9% 42.6% 39.6% 10.9%</td>
<td>101</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>10.0% 44.5% 31.8% 13.8%</td>
<td>9.3% 46.3% 34.0% 10.3%</td>
<td>749</td>
<td></td>
</tr>
<tr>
<td>G</td>
<td>15.6% 40.6% 31.6% 12.3%</td>
<td>13.7% 41.5% 38.2% 6.6%</td>
<td>212</td>
<td></td>
</tr>
<tr>
<td>H</td>
<td>7.2% 39.8% 38.9% 14.0%</td>
<td>6.8% 39.9% 40.3% 13.0%</td>
<td>5,505</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>8.2% 39.9% 37.9% 14.1%</td>
<td>7.5% 40.4% 39.6% 12.5%</td>
<td>7,069</td>
<td></td>
</tr>
</tbody>
</table>

Figure 25: Conversion rates for GP practices, by audit & plans intervention group, for before and after intervention periods
Figure 26: Range in conversion rates, by audit & plans intervention group, for before and after intervention periods.
Detection Rate

Comparing across periods, the practice plans and SEA group (C) had the greatest increase in the proportion of GP practices with statistically significantly lower detection rates than the national average (16%). The plans with existing audits group (B) greatest increase in the proportion of GP practices with a statistically significantly higher detection rate (from 6% to 13%).

Table 25: Percentage of GP practices by comparison of detection rate to England average, by audit & plans intervention group, for before and after intervention periods

<table>
<thead>
<tr>
<th>Intervention group</th>
<th>All cancers</th>
<th>Before</th>
<th>After</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SL</td>
<td>L</td>
<td>H</td>
<td>SH</td>
</tr>
<tr>
<td>A</td>
<td>7.7%</td>
<td>43.0%</td>
<td>38.7%</td>
<td>10.6%</td>
</tr>
<tr>
<td>B</td>
<td>7.4%</td>
<td>48.1%</td>
<td>38.9%</td>
<td>5.6%</td>
</tr>
<tr>
<td>C</td>
<td>0.0%</td>
<td>52.6%</td>
<td>36.8%</td>
<td>10.5%</td>
</tr>
<tr>
<td>D</td>
<td>7.3%</td>
<td>44.6%</td>
<td>40.1%</td>
<td>8.0%</td>
</tr>
<tr>
<td>E</td>
<td>4.0%</td>
<td>38.6%</td>
<td>49.5%</td>
<td>7.9%</td>
</tr>
<tr>
<td>F</td>
<td>8.5%</td>
<td>46.7%</td>
<td>37.7%</td>
<td>7.1%</td>
</tr>
<tr>
<td>G</td>
<td>6.6%</td>
<td>42.5%</td>
<td>43.4%</td>
<td>7.5%</td>
</tr>
<tr>
<td>H</td>
<td>7.8%</td>
<td>43.6%</td>
<td>41.4%</td>
<td>7.2%</td>
</tr>
<tr>
<td>Total</td>
<td>7.8%</td>
<td>43.9%</td>
<td>41.0%</td>
<td>7.3%</td>
</tr>
</tbody>
</table>

Figure 27: Detection rates for GP practices, by audit & plans intervention group, for before and after intervention periods
Figure 28: Range in detection rates, by audit & plans intervention group, for before and after intervention periods

The Detection Rate for each GP practice by intervention group
Comparison of before period (April 2009 - March 2010)
and after period (June 2011 - July 2012)
4.4.4 Audit & Plans Intervention Groups - Change in Conversion and Detection Rates

The intervention group with plans and both audits (A) had the greatest proportion of GP practices with a statistically significantly lower conversion rate in the after period with over a fifth. The plans and existing audit group (B) had the highest proportion of GP practices with a statistically significantly higher conversion rate in the after period.

When comparing the detection rates in the after period to the before period, the plans and SEA group (C) had the greatest proportion of GP practices with a statistically significantly lower detection rate in the after period. Intervention group B had the highest proportion of practices with a statistically significantly higher detection rate in the after period.

Table 26: Percentage of GP practices by change in conversion rate and detection rate, by audit & plans intervention group, from the before to after intervention periods

<table>
<thead>
<tr>
<th>Intervention Group</th>
<th>All Cancers</th>
<th>Conversion</th>
<th>Detection</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SL L Same H SH</td>
<td>SL L Same H SH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>21.8% 57.0% 0.0% 21.1% 0.0%</td>
<td>2.1% 37.3% 1.4% 52.1% 7.0%</td>
<td>142</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>11.1% 55.6% 0.0% 27.8% 5.6%</td>
<td>0.0% 27.8% 0.0% 61.1% 11.1%</td>
<td>54</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>10.5% 63.2% 0.0% 26.3% 0.0%</td>
<td>5.3% 52.6% 5.3% 36.8% 0.0%</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>13.9% 61.0% 0.0% 23.3% 1.7%</td>
<td>2.1% 36.6% 1.4% 52.3% 7.7%</td>
<td>287</td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>15.8% 54.5% 0.0% 25.7% 4.0%</td>
<td>4.0% 38.6% 0.0% 51.5% 5.9%</td>
<td>101</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>14.3% 58.6% 0.8% 25.4% 0.9%</td>
<td>1.6% 36.3% 1.7% 54.2% 6.1%</td>
<td>749</td>
<td></td>
</tr>
<tr>
<td>G</td>
<td>12.3% 58.0% 0.0% 27.8% 1.9%</td>
<td>2.4% 37.7% 0.9% 52.4% 6.6%</td>
<td>212</td>
<td></td>
</tr>
<tr>
<td>H</td>
<td>13.2% 56.0% 0.8% 29.0% 1.0%</td>
<td>3.1% 38.3% 1.9% 50.0% 6.7%</td>
<td>5,505</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>13.5% 56.6% 0.7% 28.2% 1.1%</td>
<td>2.9% 37.9% 1.8% 50.7% 6.7%</td>
<td>7,069</td>
<td></td>
</tr>
</tbody>
</table>
4.4.5 RAT Intervention Groups - Comparison to England Average

All Cancers - Referral Ratio

In the period before, the group without any risk assessment tools (Z) had a slightly higher proportion of GP practices with an SRR statistically significantly higher than expected, although the two groups are fairly similar.

In the after period, the group with risk assessment tools (Y) had the greatest increase in the proportion of GP practices with higher or statistically significantly higher SRR than expected.

Table 27: Percentage of GP practices by comparison of SRR to England average, by RAT intervention group, for before and after intervention periods, for all cancers

<table>
<thead>
<tr>
<th>RAT group</th>
<th>Before</th>
<th>After</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SL</td>
<td>L</td>
<td>H</td>
</tr>
<tr>
<td>All cancers</td>
<td>Y</td>
<td>42.8%</td>
<td>21.3%</td>
</tr>
<tr>
<td></td>
<td>Z</td>
<td>41.2%</td>
<td>20.1%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>41.4%</td>
<td>20.2%</td>
</tr>
</tbody>
</table>

Figure 29: Standardised referral ratios for GP practices, by RAT intervention group, for before and after intervention periods, for all cancers

Figure 30: Range in standardised referral ratios for GP practices, by RAT intervention group, for before and after intervention periods, for all cancers
**All Cancers - Conversion Rate**

In the before period, the two RAT intervention groups have similar proportions of GP practices that are either statistically significantly lower or higher than the national average.

In the after period, the group with the risk assessment tool (Y) had the greatest decrease in the proportion of GP practices with a statistically significantly higher conversion rate than the national average (3%). Group Z, without the RAT, had a small decrease in the proportion of GP practices that had a statistically significantly lower conversion rate than the national average.

Table 28: Percentage of GP practices by comparison of conversion rate to England average, by RAT intervention group, for before and after intervention periods, for all cancers

<table>
<thead>
<tr>
<th>RAT group</th>
<th>Before</th>
<th></th>
<th></th>
<th></th>
<th>After</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SL (L)</td>
<td>H</td>
<td>SH</td>
<td>Total</td>
<td>SL (L)</td>
<td>H</td>
<td>SH</td>
<td>Total</td>
</tr>
<tr>
<td>Y</td>
<td>9.0%</td>
<td>37.2%</td>
<td>39.0%</td>
<td>14.9%</td>
<td>9.1%</td>
<td>39.1%</td>
<td>40.0%</td>
<td>11.8%</td>
</tr>
<tr>
<td>Z</td>
<td>8.0%</td>
<td>40.3%</td>
<td>37.7%</td>
<td>14.0%</td>
<td>7.2%</td>
<td>40.7%</td>
<td>39.5%</td>
<td>12.7%</td>
</tr>
<tr>
<td>Total</td>
<td>8.2%</td>
<td>39.9%</td>
<td>37.9%</td>
<td>14.1%</td>
<td>7.5%</td>
<td>40.4%</td>
<td>39.6%</td>
<td>12.5%</td>
</tr>
</tbody>
</table>

Figure 31: Conversion rates for GP practices, by RAT intervention group, for before and after intervention periods, for all cancers

Figure 32: Range in conversion rates, by RAT intervention group, for before and after intervention periods, for all cancers
All Cancers - Detection Rate

The proportion of GP practices with a statistically significantly higher or lower than average detection rate is similar across RAT intervention groups for both periods. Although, the RAT intervention group Z had the greatest decrease in the proportion of GP practices that had a statistically significantly higher detection rate than the national average.

Table 29: Percentage of GP practices by comparison of detection rate to England average, by RAT intervention group, for before and after intervention periods, for all cancers

<table>
<thead>
<tr>
<th>RAT group</th>
<th>All cancers</th>
<th>Before</th>
<th>After</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SL</td>
<td>L</td>
<td>H</td>
</tr>
<tr>
<td>Y</td>
<td>6.6%</td>
<td>44.9%</td>
<td>39.8%</td>
</tr>
<tr>
<td>Z</td>
<td>8.0%</td>
<td>43.8%</td>
<td>41.2%</td>
</tr>
<tr>
<td>Total</td>
<td>7.8%</td>
<td>43.9%</td>
<td>41.0%</td>
</tr>
</tbody>
</table>

Figure 33: Detection rates for GP practices, by RAT intervention group, for before and after intervention periods, for all cancers

Figure 34: Range in detection rates, by RAT intervention group, for before and after intervention periods, for all cancers
**Colorectal Cancer - Referral Ratio**

In the before period, the group with the risk assessment tool (Y) had a greater proportion of GP practices with a statistically significantly lower referral ratio than expected, whilst those GP practices without the RAT (Z) had the higher proportion of GP practices with a referral ratio statistically significantly higher than expected.

In the after period, the proportion of GP practices with a statistically significantly lower referral ratio than expected decreased by around 5% for RAT intervention group Y and increased in RAT intervention group Z. The proportion of GP practices with statistically significantly higher rates than expected increased in both groups, with the greatest increase in RAT intervention group Y.

Table 30: Percentage of GP practices by comparison of SRR to England average, by RAT intervention group, for before and after intervention periods, for colorectal cancer

<table>
<thead>
<tr>
<th>RAT group</th>
<th>Before</th>
<th>After</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SL L H</td>
<td>SL L H</td>
<td></td>
</tr>
<tr>
<td>Y</td>
<td>22.9%</td>
<td>39.3%</td>
<td>27.9%</td>
</tr>
<tr>
<td>Z</td>
<td>20.8%</td>
<td>39.3%</td>
<td>27.0%</td>
</tr>
<tr>
<td>Total</td>
<td>21.1%</td>
<td>39.3%</td>
<td>27.2%</td>
</tr>
</tbody>
</table>

Figure 35: Standardised referral ratios for GP practices, by RAT intervention group, for before and after intervention periods, for colorectal cancer

Figure 36: Range in standardised referral ratios, by RAT intervention group, for before and after intervention periods, for colorectal cancer
Colorectal Cancer - Conversion Rate

In the before period, both the proportions of GP practices with a statistically significantly lower and higher conversion rate than average were highest in group Z, without the RAT intervention.

In the after period, compared with group Z, the group with the RAT intervention (Y) had a slightly higher proportion of GP practices with a statistically significantly higher conversion rate than average.

Both groups showed slight decreases in the proportion of GP practices with a statistically significantly lower conversion rate than average.

Table 31: Percentage of GP practices by comparison of conversion rate to England average, by RAT intervention group, for before and after intervention periods, for colorectal cancer

<table>
<thead>
<tr>
<th>Colorectal cancer</th>
<th>Before</th>
<th>After</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SL</td>
<td>L</td>
<td>H</td>
</tr>
<tr>
<td>Y</td>
<td>3.5%</td>
<td>53.2%</td>
<td>35.8%</td>
</tr>
<tr>
<td>Z</td>
<td>5.3%</td>
<td>54.4%</td>
<td>32.2%</td>
</tr>
<tr>
<td>Total</td>
<td>5.1%</td>
<td>54.2%</td>
<td>32.6%</td>
</tr>
</tbody>
</table>

Figure 37: Conversion rates for GP practices, by RAT intervention group, for before and after intervention periods, for colorectal cancer
Figure 38: Range in conversion rates, by RAT intervention group, for before and after intervention periods, for colorectal cancer
**Colorectal Cancer - Detection Rate**

In the before period, both the proportions of GP practices with a statistically significantly lower and higher detection rate than average were highest in group without the RAT intervention (Z).

In the period after, there were similar increases in the proportion of GP practices with a statistically significantly lower detection rate than average for both RAT intervention groups. However, the proportion of GP practices with a statistically significantly higher detection rate than average increased most in RAT intervention group Y to 4%, higher than the proportion for the group without the risk assessment tool.

Table 32: Percentage of GP practices by comparison of detection rate to England average, by RAT intervention group, for before and after intervention periods, for colorectal cancer

<table>
<thead>
<tr>
<th>RAT group</th>
<th>SL</th>
<th>L</th>
<th>H</th>
<th>SH</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td>8.5%</td>
<td>46.8%</td>
<td>43.6%</td>
<td>1.1%</td>
<td>942</td>
</tr>
<tr>
<td>Z</td>
<td>12.7%</td>
<td>45.9%</td>
<td>40.2%</td>
<td>1.2%</td>
<td>6127</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>12.1%</td>
<td>46.0%</td>
<td>40.6%</td>
<td>1.2%</td>
<td>7,069</td>
</tr>
</tbody>
</table>

Figure 39: Detection rates for GP practices, by RAT intervention group, for before and after intervention periods, for colorectal cancer
Figure 40: Range in detection rates, by RAT intervention group, for before and after intervention periods, for colorectal cancer
**Lung Cancer - Referral Ratio**

In the before period, the group with the risk assessment tool (Y) had a greater proportion of GP practices with a statistically significantly higher referral ratio than expected (8%).

In the after period, the proportion of GP practices with a statistically significantly lower referral ratio than expected increased for both RAT intervention groups, with the highest proportion in RAT intervention group Y. The proportion of GP practices with statistically significantly higher rates than expected also increased in both groups, with the highest proportion of GP practices also in the RAT intervention group Y.

Table 33: Percentage of GP practices by comparison of SRR to England average, by RAT intervention group, for before and after intervention periods, for lung cancer

<table>
<thead>
<tr>
<th>Lung cancer</th>
<th>Before</th>
<th></th>
<th></th>
<th></th>
<th>After</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>RAT group</td>
<td>SL L H SH</td>
<td>SL L H SH</td>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Y</td>
<td>7.5% 50.2% 33.9% 8.4%</td>
<td>9.8% 46.5% 34.2% 9.6%</td>
<td>942</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Z</td>
<td>7.9% 51.7% 34.9% 5.6%</td>
<td>8.2% 49.0% 35.7% 7.1%</td>
<td>6,127</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>7.8% 51.5% 34.7% 6.0%</td>
<td>8.4% 48.7% 35.5% 7.4%</td>
<td>7,069</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 41: Standardised referral ratios for GP practices, by RAT intervention group, for before and after intervention periods, for lung cancer
Figure 42: Range in standardised referral ratios, by RAT intervention group, for before and after intervention periods, for lung cancer.
**Lung Cancer - Conversion Rate**

In the before period, both the proportions of GP practices with a statistically significantly lower or higher conversion rate than average were highest in group without the RAT intervention (Z).

This remained so in the after period, however there were small decreases in the proportion of GP practices with both a statistically significantly lower or higher conversion rates than average.

Table 34: Percentage of GP practices by comparison of conversion rate to England average, by RAT intervention group, for before and after intervention periods, for lung cancer

<table>
<thead>
<tr>
<th>Lung cancer</th>
<th>Before</th>
<th></th>
<th></th>
<th></th>
<th>After</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>RAT group</td>
<td>SL</td>
<td>L</td>
<td>H</td>
<td>SH</td>
<td>SL</td>
<td>L</td>
<td>H</td>
<td>SH</td>
</tr>
<tr>
<td>Y</td>
<td>12.2%</td>
<td>52.7%</td>
<td>29.7%</td>
<td>5.4%</td>
<td>10.8%</td>
<td>52.7%</td>
<td>32.8%</td>
<td>3.7%</td>
</tr>
<tr>
<td>Z</td>
<td>14.9%</td>
<td>49.0%</td>
<td>30.3%</td>
<td>5.8%</td>
<td>11.5%</td>
<td>48.1%</td>
<td>34.9%</td>
<td>5.4%</td>
</tr>
<tr>
<td>Total</td>
<td>14.7%</td>
<td>49.7%</td>
<td>29.6%</td>
<td>5.9%</td>
<td>11.4%</td>
<td>48.7%</td>
<td>34.7%</td>
<td>5.2%</td>
</tr>
</tbody>
</table>

Figure 43: Conversion rates for GP practices, by RAT intervention group, for before and after intervention periods, for lung cancer

Figure 44: Range in conversion rates, by RAT intervention group, for before and after intervention periods, for lung cancer
Lung Cancer - Detection Rate

In the before period, both the proportions of GP practices with a statistically significantly lower or higher detection rate than average were highest in group Z, those without the RAT intervention.

In the period after, there were similar increases in both the proportion of GP practices with a statistically significantly lower or higher detection rate than average for both RAT intervention groups.

Table 35: Percentage of GP practices by comparison of detection rate to England average, by RAT intervention group, for before and after intervention periods, for lung cancer

<table>
<thead>
<tr>
<th>Lung cancer</th>
<th>SL L H SH</th>
<th>SL L H SH</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td>11.6%</td>
<td>42.0%</td>
<td>45.1%</td>
</tr>
<tr>
<td>Z</td>
<td>15.1%</td>
<td>42.2%</td>
<td>40.8%</td>
</tr>
<tr>
<td>Total</td>
<td>14.7%</td>
<td>42.2%</td>
<td>41.4%</td>
</tr>
</tbody>
</table>

Figure 45: Detection rates for GP practices, by RAT intervention group, for before and after intervention periods, for lung cancer

Figure 46: Range in detection rates, by RAT intervention group, for before and after intervention periods, for lung cancer
4.4.6 RAT Intervention Groups - Change in Conversion and Detection Rates

The proportion of GP practices with a lower conversion rate in the after period compared to the before period is highest in RAT intervention group Y.

Comparing detection rates across the periods, both groups have similar proportions of GP practices that are either lower or higher than the before period.

Table 36: Percentage of GP practices by change in conversion rate and detection rate, by RAT intervention group, from the before to after intervention periods, for all cancers

<table>
<thead>
<tr>
<th>RAT group</th>
<th>Conversion</th>
<th>Detection</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SL</td>
<td>L</td>
<td>Same</td>
</tr>
<tr>
<td>Y</td>
<td>13.8%</td>
<td>61.5%</td>
<td>0.1%</td>
</tr>
<tr>
<td>Z</td>
<td>13.4%</td>
<td>55.8%</td>
<td>0.8%</td>
</tr>
<tr>
<td>Total</td>
<td>13.5%</td>
<td>56.6%</td>
<td>0.7%</td>
</tr>
</tbody>
</table>

For colorectal cancers, the proportion of GP practices with a higher conversion rate than the before period is similar across the RAT intervention groups. However, compared with RAT intervention group Y, group Z without the intervention has a slightly higher proportion of GP practices with a statistically significantly lower conversion rate than the before period. The group without the RAT intervention (Z) has a higher proportion of GP practices with a statistically significantly lower detection rate in the after period.

Table 37: Percentage of GP practices by change in conversion rate and detection rate, by RAT intervention group, from the before to after intervention periods, for colorectal cancer

<table>
<thead>
<tr>
<th>RAT group</th>
<th>Conversion</th>
<th>Detection</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SL</td>
<td>L</td>
<td>Same</td>
</tr>
<tr>
<td>Y</td>
<td>2.0%</td>
<td>49.3%</td>
<td>16.2%</td>
</tr>
<tr>
<td>Z</td>
<td>3.3%</td>
<td>44.9%</td>
<td>20.6%</td>
</tr>
<tr>
<td>Total</td>
<td>3.2%</td>
<td>45.4%</td>
<td>20.0%</td>
</tr>
</tbody>
</table>

For lung cancer, the proportion of GP practices with a lower conversion rate in the after period is higher in RAT intervention group Y than Z.

The proportion of GP practices with a lower detection rate in the after period is also highest in RAT intervention group Y.

Table 38: Percentage of GP practices by change in conversion rate and detection rate, by RAT intervention group, from the before to after intervention periods, for lung cancer

<table>
<thead>
<tr>
<th>RAT group</th>
<th>Conversion</th>
<th>Detection</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SL</td>
<td>L</td>
<td>Same</td>
</tr>
<tr>
<td>Y</td>
<td>6.3%</td>
<td>43.5%</td>
<td>17.7%</td>
</tr>
<tr>
<td>Z</td>
<td>5.5%</td>
<td>37.8%</td>
<td>23.0%</td>
</tr>
<tr>
<td>Total</td>
<td>5.6%</td>
<td>38.6%</td>
<td>22.3%</td>
</tr>
</tbody>
</table>
4.5 Conversion and Detection Rates Comparison

4.5.1 Any Intervention

A decrease in both the conversion and detection rate is the most common change for both groups, approximately 36% in both.

The proportion of GP practices with an increase in detection rate and a decrease in the conversion rate is highest for the group with any interventions; 37% of practices compared to 31% in the no intervention group.

However, only a fifth of GP practices in the group with any intervention showed an increase in both metrics between periods, whilst a quarter did so in the group with no interventions.

Table 39: Comparison of the direction of change in conversion and detection rates between periods, percentage of GP practices, by any intervention group

<table>
<thead>
<tr>
<th>All Cancers</th>
<th>Both Conversion and Detection changed</th>
<th>Either/or both conversion and detection stayed the same</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any Intervention</td>
<td>35.7</td>
<td>4.2</td>
</tr>
<tr>
<td>No Intervention</td>
<td>35.7</td>
<td>4.7</td>
</tr>
<tr>
<td>Total</td>
<td>35.7</td>
<td>4.5</td>
</tr>
</tbody>
</table>

Figure 47: Scatterplot of the detection rate against conversion rate, by any intervention group, for before and after intervention periods
4.5.2 Audit & Plans Intervention Groups

Generally, both the conversion rate and the detection rate decreased between the periods with 36% of GP practices showing a decrease in both. The plans and SEA audit group (C) has the highest proportion of GP practices with both detection and conversion rates decreasing at 42%. This change is the most common in groups C, G and H. The conversion rate decreasing and the detection rate increasing was the second most common change between periods overall. The plans and existing audit intervention group (B) has the highest proportion of GP practices with this change at 46%. This is the most common change for intervention groups A, B, D, E and F.

Overall, a quarter of GP practices showed an increase in both the detection and conversion rates. Intervention group C had the lowest proportion of GP practices with this movement at just 5%. The plans and both audits intervention group (A) also has a lower than average proportion of GP practices with this movement.

Table 40: Comparison of the direction of change in conversion and detection rates between periods, percentage of GP practices, by audit & plans intervention group

<table>
<thead>
<tr>
<th>Intervention group</th>
<th>Both Conversion and Detection changed</th>
<th>Either/or both conversion and detection stayed the same</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>35.2</td>
<td>4.2</td>
</tr>
<tr>
<td>B</td>
<td>20.4</td>
<td>7.4</td>
</tr>
<tr>
<td>C</td>
<td>42.1</td>
<td>15.8</td>
</tr>
<tr>
<td>D</td>
<td>35.5</td>
<td>2.8</td>
</tr>
<tr>
<td>E</td>
<td>34.7</td>
<td>6.9</td>
</tr>
<tr>
<td>F</td>
<td>33.8</td>
<td>3.6</td>
</tr>
<tr>
<td>G</td>
<td>35.4</td>
<td>4.7</td>
</tr>
<tr>
<td>H</td>
<td>36.1</td>
<td>4.6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>35.7</td>
<td>4.5</td>
</tr>
</tbody>
</table>

Figure 49: Scatterplot of the detection rate against conversion rate, by audit & plans intervention group, for before and after intervention periods
### 4.5.3 RAT Intervention Groups

**All Cancers**

A decrease in both the conversion and detection rate is the most common change for both RAT intervention groups; however, the proportion of GP practices is highest in RAT intervention group Y.

The proportion of GP practices wherein the conversion rate decreased and detection rate increased is highest for RAT intervention group Y.

Only a fifth of GP practices in RAT intervention group Y showed an increased in both metrics between periods, whilst a quarter did so in no RAT intervention group Z.

**Table 41: Comparison of the direction of change in conversion and detection rates between periods, percentage of GP practices, by RAT intervention group, for all cancers**

<table>
<thead>
<tr>
<th>RAT group</th>
<th>Both Conversion and Detection changed</th>
<th>Either/or both conversion and detection stayed the same</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td>37.8</td>
<td>3.7</td>
</tr>
<tr>
<td>Z</td>
<td>35.3</td>
<td>4.6</td>
</tr>
<tr>
<td>Total</td>
<td>35.7</td>
<td>4.5</td>
</tr>
</tbody>
</table>

**Figure 49: Scatterplot of the detection rate against conversion rate, by RAT intervention group, for before and after intervention periods, for all cancers**

- **Conversion Rate vs. Detection Rate for each GP practice by risk assessment tool group**
  - April 2009 - March 2010 (Period before intervention)
  - June 2011 - July 2012 (Period after intervention)
**Colorectal Cancer**

Generally, a decrease in both the conversion and detection rates was the most common change between periods. RAT intervention group Y had the highest proportion of practices showing this change at 34% of all GP practices in the group. This group also had the highest proportion of GP practices where both the detection and conversion rate increased at 28%.

For colorectal cancer, around a fifth of GP practices had conversion and detection rates that stayed the same between periods. This is likely to be where GP practices have had no referrals and/or no colorectal cancers diagnosed in either period.

Table 42: Comparison of the direction of change in conversion and detection rates between periods, percentage of GP practices, by RAT intervention group, for colorectal cancer

<table>
<thead>
<tr>
<th>RAT group</th>
<th>Both Conversion and Detection changed</th>
<th>Either/or both conversion and detection stayed the same</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td>34.0 2.5 14.0 27.6</td>
<td>0.3 0.2 1.9 3.3 16.1</td>
</tr>
<tr>
<td>Z</td>
<td>32.9 2.9 11.8 26.5</td>
<td>0.4 0.4 1.4 3.4 20.4</td>
</tr>
<tr>
<td>Total</td>
<td>33.0 2.8 12.1 26.6</td>
<td>0.4 0.4 1.4 3.4 19.8</td>
</tr>
</tbody>
</table>

Figure 50: Scatterplot of the detection rate against conversion rate, by RAT intervention group, for before and after intervention periods, for colorectal cancer
Lung Cancer

Over a third of GP practices in the RAT intervention group Y showed a decrease in both the conversion and detection rates in the after period, higher than the proportion in RAT intervention group Z.

RAT intervention group Z had a quarter of GP practices that showed an increase in both the conversion and detection rates, slightly higher than for RAT intervention group Y.

RAT intervention group Y had a higher proportion of GP practices that showed an increase in detection rates and decrease in conversion rates in the after period at 12%.

For lung cancer, around a fifth of GP practices had conversion and detection rates that stayed the same between periods. This is likely to be where GP practices have had no referrals and/or no lung cancers diagnosed in either period.

Table 43: Comparison of the direction of change in conversion and detection rates between periods, percentage of GP practices, by RAT intervention group, for lung cancer

<table>
<thead>
<tr>
<th>RAT group</th>
<th>Both Conversion and Detection changed</th>
<th>Either/or both conversion and detection stayed the same</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Both Conv. decreased</td>
<td>Conv. ↑</td>
</tr>
<tr>
<td>Y</td>
<td>34.3</td>
<td>3.6</td>
</tr>
<tr>
<td>Z</td>
<td>29.5</td>
<td>4.8</td>
</tr>
<tr>
<td>Total</td>
<td>30.1</td>
<td>4.6</td>
</tr>
</tbody>
</table>

Figure 51: Scatterplot of the detection rate against conversion rate, by RAT intervention group, for before and after intervention periods, for lung cancer
4.6 Conclusion

The following points provide a summary of the main changes from the before to after intervention periods:

- Overall, from the before to after periods, there was a statistically significantly increase of 17% in the urgent GP referral rate, a decrease of 3 percentage points in the conversion rate and an increase of 3 percentage points in the detection rate.

- For colorectal cancer, the overall increase in referral rate was higher, at 36%. Changes in conversion and detection rate were comparable to the all cancer changes.

- For lung cancer, the overall decrease in conversion rate was larger, at 7%. Changes in referral rate and detection rate were comparable to the all cancer changes.

- The practices with any intervention demonstrated a larger increase in the referral rate, the difference being statistically significant. There was a slightly larger increase in the detection rate, in comparison to the practices without any interventions, although they did demonstrate a marginally larger decrease in the conversion rate.

- The any intervention group had a larger increase in the proportion of practices with significantly higher referral ratios and detection rates. However, it also had a larger decrease in the proportion of practices with significantly higher conversion rate.

- The plans and both audits group had the largest increase in referral rate, although the largest decrease in conversion rate. The plans and existing audit group had the largest increase in detection rate, as well as the smallest decrease in conversion rate.

- The plans and both audits group had the largest increase in the proportion of practices with higher than expected referral ratios and the plans and existing audit group had the largest increase in the proportion of practices with significantly higher detection rates. While the both audits group was the only group with an increase in the proportion of practices with significantly higher conversion rates.

- For all cancers and colorectal cancer, the group with the risk assessment tool intervention had the largest increase in referral rate and detection rate, although it also had the largest decrease in conversion rate. However, the rate differences between the two groups were small, both before and after for conversion and detection rates. However, for lung cancer, this group had the smaller referral rate and detection rate increase.

- For the risk assessment tool, the group with the intervention had the largest increase in the proportion of practices with significantly higher referral rates and higher detection rates, but also a larger decrease in the proportion of practices with significantly higher conversion rates.

- Overall, most practices (36%) had a decrease in both the conversion and detection rates, followed by a decrease in conversion rate and increase in detection rate (33%) and an increase in both conversion and detection rates (25%).

- The any intervention group had a larger proportion of practices with a decrease in conversion rate and increase in detection rates (37%), compared to the no intervention
group (31%). However, it had a smaller proportion with an increase in both rates (22% versus 26% respectively).

- The plans and existing audit group has the smallest proportion (20%) with a decrease in both conversion and detection rate and the largest proportion (26%) with an increase in both.

- For the risk assessment tool, for all cancers and lung cancer, the group with the intervention has the larger proportion of practices with a decrease in both conversion and detection rates, and the smaller proportion with an increase in both rates. For colorectal cancer, the intervention group has both the largest proportion of practices with an increase in conversion and detection rates and the largest proportion with a decrease in both.
5 Primary Care Initiatives: qualitative findings

5.1 Awareness
Intervention characteristics and outcomes

Most Networks participated in an awareness raising campaign, either local or national. The national campaigns, such as bowel or lung cancer campaigns were widely adopted. However there were a number of Networks where it was felt that the national campaign did not reflect the needs of the local population and bespoke local campaigns were designed to raise awareness of the same cancers.

“we actually did a research thing, listening exercise to our patients in [area] and actually designed a different campaign, because the ‘Be clear on cancer’ campaign didn’t really resonate with our patients, patient groups so we came up with our own one which was ‘Get it off your chest’; which actually worked, resonated much better with our population. Particularly our highly deprived populations” interview 17, GP lead

In other Networks, a local need was identified and campaigns were designed to raise awareness of cancers not included in the national campaigns. Examples included breast cancer in older women, skin, oesophageal and head and neck cancers. Local campaigns around cancers included in national campaigns were used in some areas where the national campaign was not felt to be appropriate to the local population.

“Primarily practice nurses where women have come in to see the practice nurse for their flu jab, they’ve been given a sort of one minute chat about the risks of breast cancer in [area]. And this was, this tied in with work that the surgeons at KCL have done before, on training radiographers. To deliver a brief message at the end of screening ……, so we’ve taken, I think that was a six minute intervention, they took it and pared it down to one minute and so this campaign is pretty much finished now so we’re just at the evaluation stage. Because actually the practice feedback, the informal feedback we’ve had from the practices has been really positive so it has been very encouraging actually.” Interview 1, GP lead

As well as raising awareness of specific cancer types, more general campaigns targeting specific population groups were used where there was a local need. While these were successful in raising awareness among the target group, through holding health checks at local events for example, they also raised awareness among other groups attending for the same purpose.
“she mapped out every single camp, like illegal camps, legal camps and I think because they’ve got, you know certain ones are council ones, certain one are you know, wherever they are and then there’s brick houses as well so she mapped out where everybody was and got all the various people, made some very good links in. and she’s worked in collaboration with public health, because they’ve gone in and done things like smoking cessation and I know there was one camp they got about six lads to go to the smoking cessation which was really good. So it’s little things like that. And in Dorset, we have the Great Dorset Steam Fair and she went to that with, you know with the ambulance service ‘cos they do the health checks; they were commissioned to do that and they had a stand there for a few days which was, had some successes. I mean they did do quite a lot of health promotion for the security guards and the police actually (inaudible) probably more unfit policeman there than anything else. But yeah, that was a success.” Interview 9 Network director

A number of different methods were used to communicate information, including posters, radio and local news press. Distributing material was done in a number of ways including putting information in pharmacy bags and distributing pens in a number of locations. In one area, this was adapted to suit the local population by replacing pen barrels with Chinese text.

“One of them was to, we’ve taken them [pens] out to the rough sleepers in Weymouth, and a lot of those are ex-military. We’ve taken them, actually this week, with the lung campaign, they’ve gone out to every betting shop in Dorset, you know those horrible little pens (inaudible) you know those little pens you get in the bookies, well we’ve got nice pens with cancer messages in them, you can smell the smoke when you go in them. So, we’ve done that and the other thing that happened, is the Chinese community in Dorset actually got hold of them and some very enterprising took the barrels out, got the Chinese translations of persistent cough, blood in the poo and wrapped it round all the pens and then they handed them out to the Chinese people, who love them.”

Interview 9. Network Director

Materials regarding the campaigns were frequently distributed to GP practices. When Networks sent materials out to practices it was not always known if the materials were being used. In one Network volunteers were used to ensure that the material was being displayed and to see if training material was being used.

“So this has been largely run by the project manager on the NADI staff and as I say, she, we’ve been sending out stuff to the practices, hard copies of material for them to put up and poster display stuff. We’ve been involving volunteers as well, going into practices to see if posters have
been put up. You know, we’ve been sending out information packs to GPs, out to practice managers as well, for example for the lung one, some sort of training for GP receptionists, that out and we’ve got GPs just to phone round the local practices, some of their local practices to see if they’ve received them and will they be doing anything about it”. Interview 21 GP lead

As well as raising awareness among members of the public, GPs and other staff members needed to be made aware of the campaign. This was done in a number of ways including through newsletters and WebEx training.

“the laryngeal cancer one last year, so we did some WebEx training for, we opened up the whole Network on diagnosing head and neck cancers that was sort of twinned with that campaign”
Interview 20, Project manager

Outcomes from these campaigns are difficult to assess. However there were some reports of people attending practices with symptoms as a result of noticing the campaign in a local free newspaper.

“And then, so that was one thing we did, we also, there’s a magazine in Dorset, called the Blackmore Vale Magazine, which, it goes to North Dorset and West Dorset and it’s hard to describe if you don’t live here but it’s a sort of; it’s free, it goes to everybody’s letter boxes, got about 100 pages in it, full of adverts about farm auctions, cattle markets and who’s died and you know ... general news, that sort of thing and what’s for sale. And it is literally, it’s read by everybody and we got the cancer signs and symptoms put on that and we know from the, we did some street interviews with a company doing street interviews on that plus a ‘flu campaign and we know that there’s at least six people who went to the GP as a result of that having seen signs on there and most people thought it was a good idea; it evaluated very well and it’s very cheap”
Interview 9, Network director

Context and mechanism

Some Networks felt that a national campaign was not the right mechanism for the context in which they were working. Identifying local needs was a key in deciding whether a national campaign would be effective or if there was a local need to be met.

‘Last year we did, you know laryngeal and we focused on specific electoral wards in [area] because that’s where we knew, you know, that’s what the data told us where we should be focusing.........., we’ve done skin campaigns where we’ve focused sort of the coastal areas’ interview 20, Project manager
The campaigns work through a number of different mechanisms, including raising awareness by provoking discussion.

“And we take them [pens] to pub quizzes and all sorts of things because it gets people talking about strange symptoms and whether they ought to go to the GP.” Interview 9. Network Director

In one Network a radio interview was recognised as being from a local GP, which raised local awareness of the national campaign. This local involvement in the national campaign made the campaign more relevant.

“When the bowel one was being rolled out, I went off and did an interview with radio, Viking FM it was actually and they discussed, you know, they had a chat to me about what do patient, you know kind of patients turn up etc etc, and actually the very first meeting, it was televised, not televised, it was on the air once and it was put on again a few weeks later and we had another surge of people, you know patients coming in and saying ‘Oh I heard you on …’ and in fact, you know, it is amazing how these, you know, the actual coverage is good and you know their ears pricked up, you know ‘Local doctor doing this, that and the other’ Interview 8, GP lead

Case Study Example

North Central London Cancer Network (NCLCN)

Intervention characteristics and outcome

NCLCN focused on rolling out the national bowel campaign using local groups of volunteers to work with hard to reach sub sets of the population such as a range of ethnic groups. They also used high profile organisations such as Spurs and Arsenal football clubs primarily to target men. The interventions consisted of volunteers working as community champions to raise awareness of signs and symptoms of cancer via discussion with the target audience.

The Network reported large numbers of contacts (1000s) being made, though they have no way of knowing how many have presented with cancer symptoms as a result of raised awareness.

Context and mechanisms

Both of the aforementioned interventions took place in areas where incidence of the respective cancer is high. For example NCLCN has a high incidence of bowel cancer in ethnic groups and men are also know to present at a later stage, hence the use of local volunteers from within communities to target a range of ethnic groups and high profile football teams to raise awareness primarily amongst males.
There was initial concern that these initiatives would cease as the funding was time limited, however due to the enthusiasm of volunteers and apparent success of the intervention based on anecdotal evidence that people are presenting as a result of awareness campaigns, further funding has been identified to continue the campaigns for a further 6 months.

North Trent Cancer Network (NTCN)

Intervention characteristics and outcome

An intervention delivered in NTCN focused on an awareness campaign aimed at raising awareness of breast cancer in the over 70’s. This consisted of an awareness campaign targeted at that age group and was delivered primarily through a community engagement approach, using over 1000 organisations to access the local population.

Anecdotally, campaigns seem to have variable effect, with some practices not noticing any impact whilst others report an increase in patients presenting with symptoms. The Network is currently looking at referral rates post campaign.

The Cancer Awareness Measure (CAM) carried out post campaign showed an increase in knowledge and probable help seeking behaviour following the campaign. In one area there number of women over 70 opting in to the screening programme increased from 10 to 20.

Context and mechanisms

In NTCN significant effort went into planning this campaign, including getting a breast cancer survivor to talk to the local press and getting lots of breasts knitted as a focal point for discussion. The actual process of getting the breasts knitted also had the unintended consequence of promoting further discussion around breast cancer in those aged over 70. NTCN are also in the unique position of having a Health Improvement post which carries out some community engagement work. The post holder also goes into practices to inform them of campaigns being delivered locally, in the hope of ensuring knowledgeable practitioners focused on early detection when patients present in primary care.

Interpretation

It is difficult to assess outcomes from Network and practice engagement in awareness-raising, however there is some anecdotal evidence that some people consult as a result of awareness campaigns and there is also anecdotal evidence of increases in screening uptake.
For some Networks, national campaigns were not considered the optimal approach to awareness raising.

5.2 Education
Intervention characteristics and outcomes

Educational events ran in the majority of Networks with varying degrees of success. Many of these were based around specific cancers such as bowel, ovarian or skin cancer. Others concentrated on the primary secondary care interface with events such as secondary care ‘top tips’ and ‘speed dating’ events. Other educational events concentrated on care pathways, referral procedures or risk assessment tools.

“This is where we’re working with secondary care asking for them to develop a series of top tips for practices” Interview 7, project manager

‘It’s kind of speed dating you know with half a dozen of the hospital doctors and you know, 40, 50 of the GPs so they can come together over a period of you know, an hour and half, two hours with round tables’ Interview 4 Network director

Education events ranged in size from practice based learning to larger Network wide events, encompassing peer review between practices, PCT/CCG events to whole Network events.

“What we’ve been trying to do is get practices interested in peer review at their referrals. So that would mean coming together in a group of six or eight practices to discuss their practice profiles later and then you know come up with ideas about things to change.” Interview 4. GP lead

A number of different delivery methods were used. The majority used traditional lecture based methods and face to face meetings. However some Networks utilised other methods, including web based training, videos, podcasts or education resource packs to be used in practices.

“And so through doing that, we realised that actually for a lot of GPs, sitting at a screen and reading pages and pages of PDF when you’ve been working on the computer or seeing patients isn’t attractive! Giving them a big book isn’t attractive, but watching a short video is. So for example, I’ve also created a short video about how to use the digital cameras; how to upload it into clinical systems so that’s all part of the package. So for us, video is becoming a more integral part of how we offer resources. So as well as the paper and the online we also offer the video and nowadays, the interactive PDF” Interview 15, GP lead
Beyond attendance and positive responses to reviews of training, it is difficult to measure outcomes in terms of effect on patients. There is some anecdotal evidence that referral practice has changed following training sessions.

“And then about six weeks later, I bumped into another GP who told me ‘Oh I was at your talk at [location] and it really helped me because after I saw you, I saw another patient who reminded me of your case and it was good that I helped, you know, that it did so, because I then, you know pushed and went for chest x-ray and then a CT and sure enough it was lung cancer’. So she said, my presentation helped her and it was like fresh in her mind and it actually made her do that extra bit to think of cancer” Interview 22, GP lead

The intended outcome of education was to pass on information to GPs and improve cancer care by improving knowledge of different aspects of cancer. However some educational events had unintended outcomes, in particular the events which brought together primary and secondary care. Improving links between primary and secondary care and understanding each other’s roles was a commonly reported outcome when these events occurred.

“The other thing is that I led a half day on ovarian cancer back in January and we had a really good meeting between lots of primary and secondary care ….., you know divided up the tables and having primary and secondary care people all mixed around the tables so you could try and understand their problems. And the most, most of the secondary care physicians, consultants said ‘I don’t know how you cope. I don’t know how you sort out ovarian cancer, lung cancer and dah dah dah dah … all these symptoms coming all over the place’. You know and actually what was very interesting was I gave them an overview of what I do during the day and my typical surgery, what I do, I do this and how many emails I get and how many this and we get another directive from them about this, that and the other. They actually sat there absolutely astounded by this, you know and …. But actually for us to try and understand what they do is also, would also be very interesting you know? Just a thought.” Interview 8, GP lead

Context and mechanism

In Networks where there was an established system for training and education that could be accessed, attendance was often good. This often involved using protected learning time events that were already in place.

“Well I think probably these are becoming one of the most useful ways of getting, you know in contacting GPs really, because a lot of them are being held by sort of PCTs or CCGs or whatever they’re going to be now. And, they’re, sort of, it’s accepted now more so that GPs and sort of
whole practices can sort of take the afternoon off and have out of hours cover time in covering their practice to go to these education events, so you’re much more likely to get a, you know the majority of GPs in their locality attending”. Interview 24, GP lead

Many Networks attempting larger Network wide events found difficulties encouraging attendance and felt that this may be due to a number of factors such as distance to travel to events, problems covering surgeries if all the staff were attending education sessions and alignment of protected learning time.

“We tried to put an event, put a lot of work into organizing a sort of cancer summit, primary care cancer summit which unfortunately we had to cancel because we just couldn’t get enough GPs to sign up to the event which was disappointing but yeah, it’s sort of...I mean, the feedback we got was that we were probably being quite ambitious trying to do that in the first place. But we thought we’d try. I think it’s just, I think partly because of the geography of our region, if you want GPs to attend and they’ve got to travel for an hour and a half to get there, then that’s probably a disincentive. So, and the PTLs aren’t all aligned from one PCT to another, so you’re never really going to get, I don’t know, that’s always going to have an impact, it’s very difficult to pull them all in” Interview 20, Project manager

While many Networks struggled to encourage GPs to attend Network events, some successfully produced a series of events. These events became an established part of GPs education.

Linking education to accreditation was used in a number of Networks and this provided some credibility to events and helped to increase attendance.

“you know with appraisal and revalidation becoming obviously more and more prominent and sort of mandatory now, GPs are obviously happy to attend these sort of events [education events] because it’s all going to sort of contribute towards their revalidation” Interview 24, GP lead

Lunchtime events worked well in a number of locations where a number of GPs were located in close proximity. This would not be feasible everywhere and travel to education sessions was listed as a problem by a number of Networks.

“we’ve also something called Lunch and Learn events which are smaller sessions that are based around lunchtime inviting GPs of which we’ve had about ten, 15, usually although we didn’t get quite so many at the most recent one and we focused around one particular topic at a time. So that’s a programme which we’re kind of rolling out” Interview 21, GP lead
Some Networks decided to target the education sessions at registrars. As there were limited resources, it was decided to concentrate efforts on providing training to those who would be influencing practice in the coming years.

“Well my focus has been on educating GPs who are willing to be educated and GP registrars, so we’ve run one very successful day at a local education centre where we had 40 GP registrars and that evaluated very positively. . . .

But that’s why I think, you know, registrars are going to be GPs in one or two years time and I think it’s getting their awareness up and making them aware of the resources that they can use. In the longer term, it’s going to have much more results than trying to, you know, continually bombard people who aren’t going to take it on board” Interview 11, GP lead

One of the key mechanisms in allowing education sessions to facilitate change in practice and outcomes is the discussion that accompanies the delivery of the material. This discussion occurred between GPs and in some instances secondary care clinicians and Network staff. In some cases it was felt that the smaller meetings allowed for better discussion than larger ones.

“The education session’s great, I was amazed at the interest we got on the RAT tool. ……… but I’m amazed that we got the response and certainly in the sessions; the diagnostic session was just great, the PCT, the Network one possibly less so but the events we’re doing in the PCTs are great, you know some of them have been bigger than others. Now where the ones where they’ve had you know 50 GPs have been less good than the smaller ones because you get much better engagement.” Interview 3. Project manager

Case Study Example

North of England Cancer Network (NECN)

Intervention characteristics and outcome

The NECN held a wide range of education events delivered in different ways. Events ranged from Network wide events such as the annual conference, which covered a range of topics aimed at a diverse audience, to smaller time in/time out sessions within CCG areas, usually aimed at a specific target audience such as GPs, Nurse Practitioners and Practice Nurses. Wherever possible the Network has endeavoured to use existing sessions and to make events relevant and useful for PDP purposes:
“The day job is getting so busy for GPs and their capacity to kind of go to a meeting after work or something like that is getting harder, and it really needs to be very focused on something that’s important to them, something that’s going to give them something for their PDP, their appraisal or something for their day to day work.”

This Network also held some events jointly with the Cardiovascular Disease (CVD) Network. The majority of events had good attendance and engagement, particularly where locality events focusing on both early diagnosis of cancer and CVD have occurred:

“The was a good move to go alongside cardiovascular, because the numbers are bigger, the numbers of patients that are engaged with practices on a routine basis through the CVD registers and that are greater than for cancer, so I think it was right to put the two together.”

The NECN have also supported individual GP leads to approach their respective Clinical Commissioning Groups (CCG’S) in order to make them aware of the role and the support that the cancer Network can also provide. This has resulted in formal recognition of the lead GP role in some areas, ongoing work in others.

**Context and mechanisms**

The NECN held a 2-day engagement event last year which identified the importance of education across the pathway, this is in the context of GPs needing to access CPD in order to maintain their portfolios. Subsequently, sessions have been attached to CCG and LMC events on a range of related topics including linking them with CVD in order to try to stimulate more interest, this approach seems to be working as there is good attendance when more than one topic is discussed, the general feeling is that GPs like this approach as it makes best use of valuable time. The Network and GP leads also feel this approach is effective because it attracts people who may not under normal circumstances attend a cancer update because their primary interest may be CVD. Only one GP lead reported poor attendance at locality based education events, in that instance the GP had a large geographical area of responsibility and was only personally known to a relatively small number of practices who were invited to the event and there is a possibility that attendance was poor due to his small sphere of influence, in other areas either the GP lead or the Network Facilitator were better known to the local GP community.

There was also a 2-day event on awareness which was well attended. Network Site Specific Groups (NSSGs) work programmes include GP education and awareness campaigns which demonstrates the growing acknowledgement that awareness and early diagnosis is important even within secondary care settings where the focus has traditionally been on diagnosis and treatment.
The delivery mechanism for most of the events has been a mixture of updates in the form of formal presentations followed by discussion.

Individual GPs are approaching their respective CCG’s regarding their leadership role as well as specific cancer issues, these discussions seem to be progressing well, with most GP leads’ being recognised by their respective CCG’s either formally or informally. There is also work between the cancer Network, other Networks and the SHA to support the development of CCGs and the GP leads link into this. However there are still issues about who is responsible for commissioning what, which sometimes results in lack of clarity for the GP leads

Central South Coast Cancer Network (CSCCN)

Intervention characteristics and outcome

CSCCN have focused on large scale events on a range of topics/issues (including RAT, profiles, safeguarding and tumour specific) to present information:

“There has been a well embedded programme of education and development generally so for example areas A and B have monthly target events as they call them where on a Wednesday they close the whole practice and they get, you know, 95% attendance from all practices including GPs and other key practice staff. And latterly as the CCGs have developed they have sessions for practices linked to them. We have also run our own bespoke sessions which we have managed to get badged RCGP or LMC and that always attracts people.”

These events have had large numbers attending and good engagement within the events:

“At the last RCGP event we had 120 GPs. You can’t turn those sorts of events down really and yeah you question the real value and learning out of them but then in terms of getting nuggets of information across and whilst the whole thing, they might not absorb everything or there might not be real tangible outcomes, they engage with it, it introduces them to a new set of information, new people. We are also able to introduce them to secondary care colleagues, which is vital for networking.”

Outcomes include: practices agreeing to carry out audits, although the Network is unable to quantify how many and actions resulting from audit; practices generating actions as a result of discussion relating to profiles though this information has not been captured; events have been accredited for CPD purposes.
A secondary outcome of the education events was that they have served to raise the profile of the Cancer Network:

“*I think with the educational events we’ve had and if you look at aggregate numbers who have now attended them there is a growing awareness [of cancer and the Network] which then is being cascaded back into practices.*”

An unintended outcome was that the secondary care clinicians have really valued meeting and networking with their primary care colleagues.

*Context and mechanisms*

In CSCCN events are labelled and accredited RCGP and LMC and cover a variety of early detection issues. Where possible existing fora are used. There is a credible GP leading these events who is widely known throughout the Network and there is good support from the Network itself. Great effort has been made to ensure that education events have an agenda, which is relevant and attractive to the target audience.

Events have been held on a range of topics/issues (e.g. RAT, profiles, safeguarding and tumour specific) to present information and engage GPs in activities to promote awareness and early diagnosis. The delivery mechanism for most of the events has been a mixture of updates in the form of formal presentations followed by discussion between Network/presenters and attendees.

CSCCN have focused on large scale events initially due to lack of capacity at Network level, the Network team is small and at the time this work started there was the Network GP lead working with all practices across the Network as there were no other leads within the mainland localities. Since then more GP leads have been appointed but as this formula seems to work for this Network they have decided to continue with this format. However now when they have a large meeting it often generates requests for individual practice visit follow up, which the GP leads are now in a position to provide.

*Interpretation*

Successful events are characterised by the fact that they are often part of existing educational programmes, in place for some time, they include credible sources of information and are recognised by GPs as being useful, often this was supported by accreditation for CPD, however it should be noted that accreditation alone is not enough to secure attendance at events.
GPs have limited time to attend education and are more likely to go when then know what they are going to get, and when they know they will get high quality education, CPD and sandwiches! If it is a new session the facilitators/lecturers need to provide the feeling that this is credible – leadership needed. If the leader is known to GP colleagues that may help encourage attendance.

Although time and travel to venues are problems that need to be overcome when providing education, regular sessions that provide a service that GPs recognise as useful to their practice do seem to attract attendance, particularly when travel time is kept to a minimum.

Education is more than just lectures; alternative methods such as videos and web based learning may be more effective methods of reaching a number of people. There is a need for Networks to consider what the best way to communicate information is.

5.3 Awareness and education for other practice staff

In most Networks, most educational events were targeted at GPs. Awareness campaigns were designed to increase the knowledge of the general public, while also making GPs aware that the campaigns were happening so they were prepared to deal with responses to the campaign. However, a minority of Networks targeted other groups working in primary care. In several Networks, practice staff were encouraged to participate in an online educational tool to encourage them to realise they have an important role to play in cancer care.

“there is also a cancer awareness programme for the staff to do. That was generated off the back of a suggestion from the patient group. And the argument being to educate receptionists to actually highlight when somebody should be seeing a doctor with regard to a potential cancer symptom.” Interview 2, GP lead

Practice nurses have been involved in 2 projects. One was to introduce the risk assessment tool to practices nurses.

“The risk assessment tool … we’ve opened that up to practice nurses and because we just thought that, you know the nurse could and should have that conversation. It’s not necessarily the GP and it’s just a quick, you know it’s a quick way for the nurse who may have an interest in that area to actually, if she knows the patient that well, she would be able to use that tool. So it’s a way of triaging the patients and if they have, initiate conversation about their bowel habits, because you know, the national campaign IS happening!” Interview 6, Network Director
In another Network, a practice nurse project was introduced to encourage people who may not want to visit the GP with symptoms to see the nurse first. This was introduced in response to the CRUK survey finding that people didn’t want to waste GPs time. A number of practices had signed up to participate in the initiative.

“I wondered if they would go and see a practice nurse instead? So this wasn’t about up skilling the practice nurse in any new diagnostic techniques but just to, you know to give patients permission to go through a different portal if you like into primary care and to see if they would present earlier” Interview 1, GP lead

Practices have been willing to sign up to participate in these initiatives. The intended outcome of encouraging more people to present with symptoms is not able to be determined at this point.

**Context and mechanism**

By including all practice staff in initiatives, it encourages a context where all staff feel that they have a role in talking about cancer and helps them to feel comfortable when dealing with patients with symptoms.

The practice nurse projects worked by giving ‘people permission to go through a different portal’ into primary care, thus widening access. The initiatives try to create an environment where patients feel they could discuss symptoms that they may regard as too insignificant to worry the GP about.

**Case Study Example**

Examples of interventions targeting other staff were not provided in any detail by any of the case study Networks.

**Interpretation**

Effective cancer care is the role of all staff. Patients don’t mind accessing non-medical health professionals to discuss potential cancer symptoms and nurses see such interventions as part of their role. The accurate management of apparently minor symptoms is important if primary care is to detect cancer earlier. The need to support all staff within the practice is important in order to provide a comprehensive and consistent service for patients who may be reticent about approaching a GP with potential symptoms of cancer.
5.4 Practice Visits
Intervention characteristics and outcomes

Practice visits were carried out by the majority of Networks. In most cases these were done in a similar way to the previous year. The majority of visits involved the GP lead visiting individual practices and leading a discussion on the practice profile and other related topics. These discussions often included screening procedures, RAT, audit and the availability of resources. In several cases a resource pack was developed by the Network to include all the information. These were often available in both hard copy and electronic format.

“pulling everything together into a succinct offer has been received very well…… .... And this pack is electronic as well as hard copy. It’s going to be a live document so that I think has worked well, it’s also enabled GPs on their visits just to hold up something and say ‘Look, you should have received this. Once I go away, this is in your practice, it’s in your email boxes, I can send it to you again’” Interview 7, Project manager

The majority of visits were carried out by the GP lead alone. However in some cases the lead was accompanied by another person, such as a data analyst, Network project manager or manger from the PCT.

The take up of the visits varied between Networks. In some areas, GP leads found it difficult to arrange visits, in others the majority of practices had been visited.

“I think I’m jolly nearly at 30 so I’ve got the last six to go ......The vast majority of people have been really interested, really, there was only one practice that was a bit sniffy. ‘Oh we’re far too busy, far too busy, far too busy’. Most people,.......have actually welcomed the idea, welcomed the thought of their sitting down, talking about cancer. It’s close to everyone’s heart.” Interview 8 GP lead

While many practices committed to undertaking action plans or audits following visits, outcomes from these have been more difficult to determine in the timescale allowed. There is anecdotal evidence that some changes have been made.

“And there are odd things that come out of these practice meetings, some things that you don’t expect. I was talking to a GP in Shropshire the other day who I visited last September I think, and he said ‘Well since your visit we decided we’d, we had a low rate of bowel screening uptake so every time we hear from the bowel screening hub that a patient hasn’t attended, we write to them and ask them to come in and try and convince them to go and have it done because it’s...
worthwhile.’ So it’s little things like that, that often you don’t expect to come out of the profiles really that happens.” Interview 1, GP lead.

Context and mechanism

The success of the visits firstly depended on being able to arrange a time to meet with practices. Having a recognisable lead was felt to make this easier. Where the lead is well known to the local GPs it was often felt to be easier to arrange appointments.

“I don’t know, I suppose people, over the years I’ve sort of given various presentations and people have seen what I’ve done. But I think the easy, I think the other thing is that if you’ve got someone else making the appointments from say the, something that’s got authority like the Network, the Arden Cancer Network, then people are more likely to sort of sit up. But if you have a GP that somebody doesn’t know, they don’t see the reason to bother and I think that’s one of the issues on that one.” Interview 16, GP lead.

While having a known person making the initial contact with a practice helps in gaining interest, the recognition that they are bringing useful information is also an important context in encouraging take up of the offer of a visit.

“We’ve found that as we’ve been going along, more people have heard about us and phoned us up and asked for a visit, so it is starting to cascade.” Interview 13, Public Health Consultant.

Even when the lead is known, there still may be other contextual factors making people reluctant to accept visits, such as the fear of performance management.

“I know quite a lot of them through working in the area for a while and working as a GP, yeah, no I think it’s; they’re very wary of being performance managed. They need sort of reassurance that it’s not, but you know I guess in a way, if you’re honest, it is. And I’m very much stressing that there’s no right and wrong and so I approach it as a discussion with them and sort of sharing the data with them.” Interview 18. GP lead.

Time burden is another factor in the ability to carry out successful practice visits. This impacts on both the lead and the practices. In some areas leads found that practices were too busy to make appointments for them to meet. In other areas, practices were willing to be visited but the time of the lead carrying out these visits was limited. The nature of the Network also impacted on the time available. The size of the Network and the travel time between practices influences the time available for visits.
“I think it’s getting in which is probably the most important. The problem in general practices is that cancer is not high on the list. People are very busy, you have to pick your time, you have to be available at different sorts of times and what people will give you is very mixed from seeing one partner to seeing the whole practice including receptionists and everybody else.” Interview 16, GP lead.

“So we’ve done 19 practice visits, no sorry, we’ve either done or we’ve got planned 22. And we’ve got another 11 that we’ve still got to confirm dates with. So, it’s not huge numbers, we can’t we just, you know we’ve been seeing a couple a week and we can’t, just can’t get round to see everybody, that’s the problem.” Interview 13, Public health consultant.

The visits give GPs space to discuss issues relating to cancer and give opportunities to consider where changes in practice can occur. This is the first step in the process where changes can be implemented to improve outcomes.

Case Study Example

**North Trent Cancer Network (NTCN)**

**Intervention characteristics and outcome**

In NTCN, the practice profile visits have been used to stimulate discussions with individual practices regarding the data identified in their profile, how they compare with other practices and what are the areas requiring individual practice action. Other related issues such as awareness campaigns, safety netting, audit and use of RAT are also discussed.

There has been positive feedback from practices, with practices producing action plans and some agreeing to participate in audit. Initially the Network followed up practice to review progress on action plans drawn up as a result of the visit. However the Network no longer has capacity to follow up on action plans once they have been shared with the Network.

**Context and mechanisms**

The GP leads and Network view practice profile visits as a useful way of engaging practices and the action plans resulting from a visit as a way of getting grass roots ownership of the wider cancer agenda. Individual practice visits based around peer to peer discussion and resulting in an individual practice action plan. Practice visits have been well received with good engagement throughout the visits, although there are still a minority of practices that will not engage at all. One GP lead is trying to get individual practice leads in one locality, she is also working with CCGs to see if they can be
incentivised in some way for taking on this additional responsibility. The Network analyst role has been key to supporting profile visits; her presence also helps raise profile of the Network in general as she can update on wider Network issues and also make practices aware about how the Network can support them in other ways, this has significantly increased the number of requests for further information and support from the Network:

“Practices know me from the profile visits, quite often they will query some of the data and I’m often able to provide additional information for them. They know I am part of the Network and I stress we are there to support them and quite often they’ll contact me about non data related things that the Network are doing. I think being at the visit is a useful way of raising the Networks profile.”

A facilitative approach has been key to engaging practices in profile visits, and this approach is thought to be responsible for the ongoing engagement between practices and the Network following a visit. Following a visit the Network sends practices a letter detailing the discussion had at the visit. The Network also drafts an action plan as agreed during the visit and returns it to the, carrying out any Network appropriate actions at that stage. Initially the Network followed up practices to monitor progress against the action plan, however due to staff reductions and realignment of work streams this systematic approach to follow up has ceased:

“There’s a template for the action plan . . . . . . some of the things the practices are already doing and some they agree they will do . . . . the difficult bit is understanding their commitment to implementing the action plans”

“At every visit we’ve produced action plans but what we haven’t done is consistently gone back and asked them if they’ve put those plans in to place.”

Because of capacity issues with the GP leads the Network has carried out the practice visits in a planned way, initially focusing on those practices who are outliers on the profiles:

“The practice visits are definitely raising awareness but it’s a slow process visiting practices. But all of the GPs agree that the one to one is invaluable.”

Interpretation

It is evident that different Networks have viewed the development of action plans differently, some have put in place formal feedback mechanisms for the plans to be submitted to the Network and have actively followed this up with practices whilst others have not. Formal follow up of the actions outlined in action plans has also not been consistent across Networks.
There are advantages and disadvantages of bringing another person to a visit. It can be useful to establish more contacts e.g. meeting a data analyst, who can also then develop a mutually beneficial ongoing relationship with practices. Alternatively, the presence of an additional person may raise questions of why the additional person is present, this raises concerns, particularly when that person is a PCT manager, as the visits have largely been promoted as peer support visits rather than performance management visits.

5.5 Audit

Intervention characteristics and outcomes

Audit has been encouraged by the majority of Networks, with varying degrees of success. Most Networks have introduced either the RCGP audit or Significant Event Audit (SEA), although some other tools have been used including the Macmillan audit and audit of new diagnosis of head and neck cancers. Often these are introduced as a possible action following the review of the practice profiles during the practice visits.

“We’ve picked, we’ve kind of put them into a kind of a logical order of what you might, if you’re a GP practice, what you might consider doing. So it starts out by saying; Well, look at the cancer profile and that gives you an idea about your cancer demographics of how you’re doing and how you’re doing compared to the mean. Then take them through the primary care audit and give them a link to your, Durham website, download the Excel spreadsheet and links to the national report.” Interview 7, Project manager.

Most were introduced as a tool for all GPs. In some Networks specific groups, such as registrar, were targeted. This provided a way of engaging the whole practice.

“And I think that has led to engagement of the practices themselves because registrars who are assertive enough are going back to their trainers and saying ‘I want to do this’ or ‘I want to look at this as part of my …’ ‘cos they all have to do an audit in their training year. So, you know that’s and ideally they should present that audit to their practice so it’s kind of a way in of doing a small audit of say two week wait’” Interview 11, GP lead.

Participation rates varied between Networks. Some struggled to engage GPs, while others found that the participation rates increased compared with previous years.

“They’re just so pushed, you know general practice is just so stretched at the moment. It’s very hard to get them to sign up to anything formal.” Interview 18, GP lead.
“we’ve got 175 practices and we had 60 sign up for audit last year, so that was really pleasing. And that was, you know, I think we had something like 33 the year before.” Interview 20, Project leader.

**Context and mechanism**

Although the types of audits used were similar across the country, engagement varied. This may be due to a number of factors. In many cases the time burden on GPs was felt to reduce willingness to participate.

“My biggest problem is, is to get GP, the audits, that I’m working with are already very, very, you know busy; very, very overworked, very, a lot of them very jaded as well you know so … and you know so it’s, it’s difficult and GPs generally think you know, each time somebody visits them or somebody tells them about something, it’s almost like another thing that they’re expected to do, you know and so with the validation coming up, with CQC, with QOF, with everything, you know their plate is never empty!” Interview 22, GP lead.

Despite the high demands on GPs time, many Networks found that people were willing to participate.

Linking the completion of the audit to revalidation and CPD was felt by many Networks to be a useful mechanism to encourage participation. Similarly, financial incentives were used in some areas to encourage participation in audit.

“PCT that did that and again we linked that in with credits for appraisal for the incentive. So you do the audit, you pick a case for significant event review, you discuss it with your partners you know, and that generated something like ten hours of CME.” Interview 2, GP lead.

“The cancer diagnosis audit, and we’d actually paid the practices, I think it was £30 per patient analysed I think, and then we decided that we would continue that offer, that funding for practices that wanted to do it although at the moment,” Interview 21, GP lead.

While many of the Networks felt that revalidation and financial incentives were key to gaining participation, feedback was also an important factor. In several areas the audit results from previous audit cycles had been analysed and feedback to practices. In these areas, GPs were keen to participate again as they liked the fact that it was ‘part of something bigger.’

“We issue a certificate, you know, for their portfolio and kind of people just, people like being part of something bigger. So people like the fact that they’re contributing to a national project of
importance, or they were. We haven’t told them yet that it’s been analysed by NCIN this time round! But they like the idea and that will come back on the table. They like the idea that they’re contributing something that’s valid and that’s kind of got a good methodology behind it and that’s clinically relevant.” Interview 5, Project manager.

“I think that the GP audit, you know the RC GP audit, we did that in Lancashire PCT and the practices really took that on board and we got a lot of data back from that which was very much along the similar lines of the national outcome, the national …. And I think that was a very good piece of work and I think the practices who took that on board did very well and I was very encouraged by the standards that they were setting in the practices.” Interview 2, GP lead.

This feedback is a possible mechanism for using the audit to implement changes in practice that will result in changes in outcomes for patients. A second mechanism is the discussion that results from carrying out the audit.

“And they enjoy it because, and we also say ‘Don’t just do the audit, discuss it at practice meeting, kind of feedback to us against these specific questions of your learning.’ Interview 5 Project manager.

Where the audit of new cases of head and neck cancer was undertaken across the Network the aim was identify issues in the care pathway that could be addressed in the future.

“we’ve also been working with the head and neck tumour group and one of our GPs is going to be doing a project, doing the GP diagnostic audit and they’re taking it back across the Network for all their, I can’t remember their numbers, but say they have 30, 30 head and neck cancers coming from all over the Network, they would actually go out to those practices and get them to do that audit so that we’ve actually got a body of knowledge about that particular pathway even if it’s only one or two cancers per practice or less than that, you know.” Interview 21, GP lead.

Case Study Example

North of England Cancer Network (NECN)

Intervention characteristics and outcome

An audit tool and funding were made available to practices.

Some practices participated and additional audits are now being conducted in localities. In one area the GP lead has managed to ensure that audit is part of the local incentive scheme.
Context and mechanisms

The NECN has a history of reasonably good uptake of audit though this does vary between localities. Practices were asked to participate in audit; practices were presented with the idea that because the tool and Network support already exists it is a more attractive option than other audits. A number of practices are now re auditing. In one locality the GP lead and Network Service Improvement Facilitator (SIF) tried to encourage participation via email, this had a poor response. GP leads and Network facilitators known to practices who have targeted individuals have had a much better response. The GP leads have also promoted the value of including audit in the appraisal process and this has proved to be an additional incentive for some GPs.

“I’ve reminded practices that an audit tool already exists, they can get funding and Network support to do it and in any case they have to do it for appraisal purposes so it makes sense to choose cancer over and above other audits”

Central South Coast Cancer Network (CSCCN)

Intervention characteristics and outcome

An audit tool and funding were made available to practices.

Practices were initially approached via email, but since the initial contact have been approached in a variety of ways such as face to face at meetings and on an individual basis. There was no uptake initially and only 2 practices subsequently volunteered to participate. Practices report that they are now engaging in other types of audit, though the sharing of results with the Network is variable

Context and mechanisms

Despite direct offers to practices of funding to support SEA, uptake was poor – only 2 practices participated:

“Despite having the funds available to support practices to undertake audit, support backfill, or support whatever it is they need, even with those sorts of financial carrots it’s difficult to engage them.”

There are various views as to why it has been difficult to engage general practice in audit:

“I think it [poor uptake of audit] reflects several things. One it reflects the fact that cancer, you know, is a component of the broader agenda, which is so enormous that primary care teams within practices and CCGs as they are evolving are swamped with everything that they’re not
necessarily able to focus on something as specific as that. I think the second issue is that it’s not necessarily considered a lower clinical priority, but that numerically speaking with things like the structure of QOF and that sort of stuff that the reality of their focus has historically been on other areas such as cardiovascular medicine, hypertension, diabetes and all that sort of stuff.”

The Network is currently trying to rekindle interest. There is a view that uptake has been so poor because GPs are inundated with requests or edicts to do all sorts and that cancer is only a small part of the average GPs role. GP leads are still advocating SEA, but also Macmillan audit and a number of practices are taking this up, though the sharing of results is variable:

“We’re promoting both significant event audits but also Macmillan have put together a fantastic educational programme where they have a modular audit that covers the five elements of the patient pathway.”

Local audit is viewed as more meaningful in the future such as audit relating to numbers of chest x-rays resulting in a cancer diagnosis etc.

Interpretation

Most Networks have been encouraging practices to participate in audits for 2 years. It was noted by several that the numbers participating were increasing. When practices had participated before and received feedback from the Network, they were likely to participate again. The audit is felt to be useful then practices engage, whether it is through feedback from the Network, production of action plans or for revalidation purposes.

Often when practices engaged with the audit process, they then became engaged with the wider Network and other Network activities.

There is also a need for local audit where a specific need is identified by a Network.

5.6 Risk Assessment Tools (RAT)

Intervention characteristics and outcomes

Risk assessment tools for colorectal and lung cancer were produced by NCAT in mousemat and desk easel formats. These were introduced in the many Networks through practice visits and education sessions. In other Network supporting information, desktop tools and mouse mats were often mailed out to all the practices. However it became evident that when this happened, doctors rarely used them. Further education on their use was needed, whether this was as part of a practice visit, an education session, information in a resource pack or through videos or podcasts.
“And that’s exactly what we did with the RATS tool as well. We sent that with a very short, concise user guide so that practices can actually see, refer back to it when, you know, when they’ve forgotten and what they came back to me was that ‘We do not want paper copy of anything, we want this electronically’” Interview 25, GP lead

There is limited data on how frequently RAT were used in practice and whether this affected referral patterns. There is evidence from their pilot evaluation that they are used selectively, more often in complex cases, and that their use is associated with increased use of investigations, increased referrals and more cancer diagnoses.

“you know they’re not coming back and saying ‘Well if I hadn’t had this risk tool, I wouldn’t have referred this person’. It just seems to sort of back them up.” Interview 24 GP lead

In some Networks the RAT has been incorporated into the referral form its, although whether this application has changed referral practice significantly is not known.

Context and mechanism

The RAT has been used as a visual aid to show patients why the decision to refer or not to refer has been made. The resulting discussion is one mechanism by which this intervention causes change.

“Sometimes it’s actually reassuring to show the patients that, ‘Well you know in actual fact this particular symptom is really not too much of a worry at the moment. But obviously if you develop any of these other things, then we need to re-look at it.’” Interview 24, GP lead.

More experienced practitioners were reported as less likely to make use of it, whereas if was felt to be of more use to more newly qualified GPs and registrars. The value of the RAT as a teaching tool was mentioned by several participants.

“The risk assessment tool less so, the more experienced GPs say ‘Well it doesn’t tell me anything I don’t already know’; the younger ones are finding it helpful if you see what I mean?” Interview 17, GP lead.

The physical nature of the mouse mat and desk top flip chart encouraged use, but when simply distributed to practices with no specific training it was often found not be used. Where its use was promoted in the context of training support, uptake was more likely. This training support often took place during practice visits.
Due to the infrequent use of the tool in some practices, it was felt helpful to have reminders that GPs could access. These included paper and online information and videos. This created a context where continued use of the tool was supported by easily accessible refreshers on it use.

“Because one of the complaints that we had was that people got it and then because they only used it every now and again, they forgot how to use it. So we thought well, ‘Ok, if we provide this’ and ok it’s not going to obviously tell you the answer every time but if you forget how to use it and you want a quick burst of how to do it, there’s a three minute video here which explains it.” Interview 15, GP lead.

Some doctors wanted an electronic version of the RATs.

“I said to her ‘I haven’t seen the RAT tool on your table?’ She said ‘I’m not going to put anything on my table as you can see’ (laughter) ‘as you can see, you know it’s all clear. I don’t want anything on my table and I like things, electronically when you can click a button and see it electronically’. So that’s exactly what we did, we sent, although we sent the tool to them, you know the mouse tool to them, we’ve also done the electronic version of it.” Interview 25, Public health consultant.

Case Study Example

North of England Cancer Network (NECN)

Intervention characteristics and outcome

Risk assessment tools were sent out to all GPs in the form of mouse mats and desk top tools.

The Network and GP leads were subsequently alerted that a number of GPs had received them but did not know how to use them. Following work to address this deficit in knowledge there was an increase in referrals overall but the Network was unable to attribute this directly to the introduction of the RAT, as it coincided with awareness raising campaigns and the appointment of additional GP leads.

Context and mechanisms

In response to GPs expressing concern regarding how to use the risk assessment tools, the Network has produced some podcasts delivered by some GP leads explaining how to use the risk assessment tools. It is however too early to evaluate the impact of these podcasts.

The use of risk assessment tools has also been incorporated into some education sessions and practice profile visits. In one pilot area it has been incorporated into a colorectal referral form.
Central South Coast Cancer Network (CSCCN)

Intervention characteristics and outcome

Risk assessment tools were sent out to all GPs in the form of mouse mats and desk top tools.

A number of practices expressed concern that they did not receive them, this may be because they were put into practice resource libraries and/or disseminated to the wrong members of staff. There was also some difficulties identified with their use, even though they went out with accompanying guidance.

The GPs that did receive them and are using them reported that the using a RAT allows them to make more consistent and more appropriate referrals. There is however no data available to support this.

Context and mechanisms

In response to GPs expressing concern regarding how to use the risk assessment tools the Network has provided additional training at events and via practice profile visits:

“What’s been useful in the seminars we’ve done case studies to actually get them using them for real, sometimes you do need that one to one mentoring to say well, what you do is a left diagonal, or this, that or the other. So I suspect the user interface could be improved.”

GPs use the RAT in different ways, according to anecdotal reports

“We had a GP at one of the events recently who said she loves her RAT tool but she said I was just too embarrassed to look at it while the patient was sat there. And there was another GP who said he hadn’t thought about using the RAT tool, the patient walked out the door and then he went through the RAT tool and thought oh, so had to get them back. So anecdotally the GPs we’ve spoken to to date really like the mouse mats. One of the GPs said that the desk tool was really nice because they went through it with the patient.”

In addition the colorectal RAT has now been integrated into 2 week wait proforma and there are plans to incorporate the lung RAT into that referral proforma.

Interpretation

The introduction of a tool of any sort needs to be accompanied by education. Physical objects are helpful to get people interested, but how and when to use them needs to be clear and reminders available. The tool needs to be available in a number of formats to the widest uptake.
Where there are champions to promote an intervention, it is more likely to be adopted. GPs seem to respond positively to new interventions where there is clear information provided by a credible lead who describes the use of the tool/intervention in the context of their own previous and current clinical practice, highlighting the difference it makes.

GPs need evidence that they work one reason cited for not using them was the lack of such evidence.

5.7 Communication
Intervention characteristics and outcomes

A number of different methods were used to communicate information to GPs. Newsletters were commonly used but other methods included podcasts and videos. In some cases existing communication channels were used, but in others new ways had to be developed to pass on information to GPs.

“then you now you have podcasts, you have videocasts and I think it’s just making sure that we don’t get left behind in this level of communication” Interview 15 GP lead.

Context and mechanism

The ability to target communication effectively is important. Even when the information is in a form that GPs would find useful, the ability to get it to the right people is not always straightforward. Where previous communication sources can be used the flow of information may be easier.

“Well we advertised ourselves in the first instance and it did take quite a while to get it off the ground. And that’s one of the learning points that I’ve found from this actually, that you need two or three months really for people to even start to hear about what you’ve got to offer. Because they’re quite well protected, GPs by their practice managers who filter information or by the PCTs, ‘cos we haven’t got for example, an email list of ... we’re not allowed to have, should I say, an email list of GPs. So we’ve had to put stuff out through newsletters or individual mailouts and the individual mailouts don’t always get to GPs. So it’s been, it was actually engaging with GPs, once they knew about us, they were interested but it was actually getting the information to them. It’s been quite hard work really. So we do need to set up better a communication system.” Interview 13, Public Health Consultant.

A successful form of communication appeared to be informal Networking, with local practices talking to each other and spreading information.
“And, whilst you have training practice, because of the nature of our location you often get along the same street, half a dozen practices, two or three which are trainers and two or three which are non trainers, but they all know each other. And so if one guy is doing sort of particularly interesting work or is prepared to talk about it then it gets shared quite quickly.” Interview 15. GP lead.

Due to the high volume of information that GPs receive the information needs to be seen to be useful and in a form that is simple for them to access. Communication was an essential part of awareness raising, and was used to encourage behaviour change. The newsletters also helped to keep the NAEDI agenda fresh in GPs minds.

“you know trying to keep cancer on the agenda really, so because we’ve been given theories and initiatives in lots of things cropping up we turn out a newsletter, a NAEDI newsletter regularly.” Interview 14. GP lead.

Case Study Example

North Trent Cancer Network (NTCN)

Intervention characteristics and outcome

The NTCN compiles and disseminates a monthly NAEDI newsletter, although discussions with GPs indicate that it does not systematically reach its intended audience.

Context and mechanisms

The Network has developed a newsletter to ensure all messages are communicated consistently and via the same route. It aims to raise awareness and encourage behaviour change in GPs by signposting to other services/initiatives. It includes links to other information including a CRUK quiz which gives CPD points on successful completion. Feedback from GPs via GP leads and Network staff is that the newsletter is valued by those who have read it. However, the same feedback has indicated that not everyone receives it. This is despite the fact that the Network has agreed the method of dissemination with the respective PCT/CCG communication leads. The GP and Network communication leads have ascertained that the newsletter is not being circulated in a consistent and systematic manner; as a result the Network is currently reviewing its communication processes.

Interpretation

The communication of information is important in encouraging behaviour change, but there are problems in spreading information. Directing it to the right place can be problematic, and it may not
reach its intended audience. It is important to repeat messages that are consistent via a variety of different routes and in different formats in order to ensure the greatest number of people hear them. Networks need to think beyond letter and email, while video/podcasts etc seem to work well for some people.

Spreading messages across a Network is made more challenging by the fact that a Network is made up of multiple organisations each with their own systems, processes and cultures. This makes it difficult to have a “one size fits all” solution.

5.8 Pathways
Intervention characteristics and outcomes

Pathway redesign occurred in a number of Networks, covering areas such as direct access to flexi sigmoidoscopy, chest x-ray and skin cancer referral.

“So the intervention to encourage GPs to take a photograph, digital photo of the lesion, put it into the, into their medical records as an attachment and then when the reply letter comes back you can link what the specialist has said with the original stimulus that led you, or led someone to refer the patient.” Interview 15 GP lead.

Pathway modelling was also undertaken by some Networks. Meetings between primary and secondary care helped to determine where problems lay in the pathway so that changes could be made for the future.

“two events that we ran for clinicians and GPs to meet and talk about patient pathway from primary care to secondary care. So that’s at the stage now where it’s been analysed and it’s on our website in draft, for comment and the next stage is to identify priorities from it and then we’ll get the GP leads and others, from secondary care, along to start to work with us on actioning it.”

Interview 13. Public Health Consultant

The outcomes were difficult to assess, as this pathway work had often only recently been undertaken and there had not been sufficient time to undertake a full evaluation. However, there were examples where the referral process has been noted to be easier. Pathway redesign could have unintended consequences, such as reporting of incidental findings. These were viewed as a positive by-product.

“Yes and it works very well because you know, you get a report back saying, you know ‘I’ve had one that basically showed you know, unfolding of the aorta and probably an aortic aneurysm’; you know they had their CT and either the report came back saying, you know, copies go out to the
patient saying, you know ‘No you don’t have anything wrong with your lungs but there is an incidental finding, please go and see your GP’. And I had, there was my CT report saying that this patient’s probably got an aortic aneurysm and I ought to be doing something about it.” Interview 17 GP lead.

Context and mechanism

For the pathway developments to have the desired effect on outcomes, the design of the pathway needs to be carefully considered. In many cases, significant time was taken to review and evaluate the project and to make the decision on whether to roll out a programme or not. This is a time consuming process, but is necessary if implementation is to be effective. This measured approach can sometimes conflict with the short time scales that are often demanded by sponsors.

“You know projects that we’ve had so far have been an extremely tight time scale which have been very difficult to; it’s hard to embed things in the time and then you’re on to the next thing. .....if it becomes to rapid that number becomes meaningless because actually nobody’s really had time to engage....we’d developed it up to the wire for the flexi sig, we’d sort of developed a second half ... once the flexi sig had been set up, and then because the extra funding came along and because we were able to, we had time to roll it over, then yeah we, you know then it had already been worked up so we didn’t have to waste the time working it up, we went straight into it.” Interview 12 public health consultant.

In some cases pathway redesign was linked with awareness campaigns, both for the public and GPs. This combination created a context where the message regarding the new pathway was being reinforced by the campaigns.

“So that was one big campaign, and it’s the time that takes and that’s what I think often isn’t put into this, it only works if the time is taken so a) you get the whole pathway sorted out and talk to everyone and get it smooth and running and then you have to educate patients and GPs, and primary care; and then you have to reinforce it, and then you have to reinforce it, and then you have to reinforce it AGAIN until it becomes engrained and then people don’t think, they just do it! And we saw a peak when we first did chest x-rays but that peak didn’t die off because of, I’m sure because of the reinforcement that we’ve been doing steadily throughout to keep reinforcing it. And people are keeping on referring because that’s, there’s no point in doing that, you pick up a few thank you but you want to change behaviour!” Interview 17. GP lead.

One mechanism evident in successful initiatives was to provide a feedback mechanism for GPs, allowing for them learn from the referral. The example of skin referral feedback is one example
where the pathway was designed to allow GPs to build up a learning tool that was relevant to their specific practice population.

“And so the idea is that that leads to a cycle of feedback that is very specific for your population. And as I explained, we’ve got large immigrant populations and so people who turn up, brown skin or black skin and the idea here is that the feedback you get is completely context sensitive so you’re not getting to see white skin which is what you tend to see in all the atlases”. Interview 15 GP lead.

Case Study Example

**North of England Cancer Network (NECN)**

**Intervention characteristics and outcome**

NECN are currently developing end to end pathways, which start at prevention/screening and go through to survivorship/palliative care.

They are also in the process of developing the 2nd prototype of a commissioning tool with a range of parties including clinicians and industry.

**Context and mechanisms**

The idea behind end to end pathways is to develop pathways that start at prevention and go right through to survivorship to support future commissioning decisions. The Network is starting to develop an interactive economic model, through discussions with clinicians and industry that will test the impact of interventions on local populations:

“The commissioning tool/model is currently based on data the Network has access to relating to key factors which influence cancer such as smoking prevalence, lifestyle, stage of disease, mode of presentation etc. Modelling these risk factors will allow commissioners and providers of care to begin discussions on potential outcomes of initiatives and investments that will support the saving”1000 Lives” Network strategy. Work is currently focusing on refining the model to assist in the future development of tactical approaches to target investment in a more efficient way. It is envisaged that the model will be an evolving one and as more data becomes available from national level down to GP practice level it will become more sophisticated and enabling the prioritisation of work streams”

**North Central London Cancer Network (NCLCN)**
**Intervention characteristics and outcome**

NCLCN convened a group to scope the feasibility of a 1-stop clinic for Upper Gastrointestinal (GI) cancers

The outcome of that work was the decision not to proceed with this development.

**Context and mechanisms**

The development of a 1-stop clinic was identified as a potential improvement in the work plan. A group of clinicians and Network staff met to review the evidence base and to discuss a potential service model.

After careful consideration of the evidence base, the outcome of this meeting was the decision not to proceed with this particular service development. The group’s interpretation of the available evidence was the service was unlikely to provide any improvement in clinical outcomes or to be cost effective.

**Interpretation**

Time is required to design and establish new pathways. What sounds like a good idea may not work in practice and careful evaluation is needed before and during design and implementation of new pathway. It is crucial that a multidisciplinary/multiagency approach is taken when reviewing pathways of care, The amount of time required to effectively redesign services should not be underestimated; time is needed to evaluate the need, design or redesign the pathway, pilot, implement roll out and then re-evaluate.

**5.9 Safety netting**

**Intervention characteristics and outcomes**

Safety netting was undertaken in a minority of Networks. Initiatives included linking safety netting into the awareness raising campaigns, developing electronic templates to be used for symptom screening and letter templates for those defaulting from screening.

“I think it’s 10 or so are developing an electronic template. So it’s a sort of, it’s a symptom screening questionnaire so the concept is that when patients come for whatever reason, they’re asked to, while they wait, to fill in that questionnaire but the GP has on their screen, a template on which they can dump the conversation.” Interview 19, Network director.
As with many of the other initiatives outcomes cannot yet be assessed although there are plans in some Networks to evaluate the impact on screening rates.

**Context and mechanism**

The development of safety netting procedures was sometimes done with practices working together. This context where practices were able to work together to develop a tool allows for discussion to occur; one of the mechanisms by which the initiative will help promote change in behaviour.

**Case Study Example**

**Central South Coast Cancer Network (CSCCN)**

**Intervention characteristics and outcome**

At all Network educational events and practice visits the importance of safety netting is discussed and use of template letters for screening defaulters has been actively promoted.

This raised awareness has resulted in a number of requests from practices for templates. No formal evaluation of their use has been carried out, though in 12 months the Network intends to review colorectal cancer screening rates.

**Context and mechanisms**

At education events safety netting is systematically promoted. The Network GP lead gives examples of his own practice, past and present, and talks about moral and legal implications of not following individuals up:

“He’s able to combine that charisma and leadership that you need to take people with you. But he does it in such a human, non-threatening way, and you know one of the things that I’ve really noticed about his style is that he’s very open to talk about his own practice. And one of his best openers is before I did this job I wouldn’t have even thought about safety netting, but now I know what I know I do it differently, and I’m not saying it’s right or wrong, I’m just saying there might be different ways of doing things. And so you know, at the vast majority of events we’ve attended people really respond to that.”

A template letter has also been developed aimed at those who fail to attend screening. This letter is widely promoted at all events and other contacts between GPs/practices and the Network:
“Safety netting example letters are included in an information pack which is available at meetings and events so that GPs and their teams can take those away and digest and use them if they decide that they want to buy into it.”

Interpretation

Safety netting or the lack of it can be quite an emotive subject for practices. Giving personal examples of how one would do things differently as a result of having a raised awareness of its importance is an effective way of making the subject relevant.

5.10 Leadership

Intervention characteristics and outcomes

Leadership is a key characteristic of many of the successful interventions. Leadership is provided by both the Network and the individuals within it.

Some Networks provided leadership development for their GP leads.

“So that we had a section on GP leadership and we’ve been doing some work with the existing GPs that we had, developing, increasing the number of GP leads that we had. We only had a couple and we started, we have six / seven now because we’re bringing more on board ….. So we’ve been involving them in starting to learn on the job if you like and doing what we do and so they’ll be able to take over from us.” Interview 13, Public Health Consultant.

Context and mechanism

The key mechanism in many projects was to have a credible leader. Having a strong leader with a clear role was a key success factor in many of the projects. This leadership may stem from a single person, the lead GP, or from the Network as a whole. Engagement with GPs was often easier when they recognised the Network as being a credible source of useful information.

“We’re [the Network] a useful, credible, resource and we kind of; we deliver what we say we’re going to deliver” Interview 5, Project manager.

Case Study Example

North of England Cancer Network (NECN)

Intervention 1 characteristics and outcome
The appointment of additional GP leads was pivotal to the Network getting better coverage of primary care. The local Macmillan manager was instrumental in engaging GPs via the use of personal contacts and face to face discussion with potential candidates.

This approach has resulted in a total of 10 new GP leads posts being created and 11 individual GPs being appointed.

**Context and mechanisms**

Historically it has been quite difficult to recruit to GP lead roles due to the demands and workload of general practice. However the proactive role taken by the Macmillan manager seems to have had a positive effect. Macmillan also provided funding for this additional capacity.

**Intervention 2 characteristics and outcome**

A Network stakeholder event was held, targeting new and established GP leads, Network staff involved in supporting primary care work and Macmillan representatives.

The outcome of that event was a report which identified clear actions for the different participating parties. A mapping exercise to identify GP activity and capacity was carried out and presented to Network board. Action learning sets, facilitated by the regional Macmillan GP lead for the new Macmillan funded appointees, have been opened up to non Macmillan funded GP leads. Training on profiles and RAT has been developed and led by the Network.

There are also plans for the Network to discuss this approach further with CRUK.

**Context and mechanisms**

NECN have a mix of GP leads who have been in post for a long time plus some very recently appointed GP leads who are funded by Macmillan. Some established leads are also involved with their CCG, others are not. There is concern that there may be lack of clarity around new and existing roles and risk of duplication. To address this, the Network hosted an event that explored issues around consistency of role and function. The event went well with established post holders welcoming new appointments and the additional resource and capacity they bring. The Network lead GP role developed organically and this role is not involved with a lot of NAEDI initiatives or in supporting the GP leads, although the post holder does chair the cancer in the community group.

**Intervention 3 characteristics and outcome**
A buddying system for new GP leads has been established. Initially this was supported by the Network, now it is self-sustaining.

The new GP leads have availed themselves of this opportunity. Existing GPs report that they enjoy being “buddies” and find the process to be mutually beneficial.

**Context and mechanisms**

The buddying system was established due to the large numbers of newly appointed Macmillan GPs. There were some very established and experienced colleagues who were in a position to offer substantial support and guidance to these new appointees.

**North Trent Cancer Network (NTCN)**

**Intervention 1 characteristics and outcome**

GP leads take lead responsibilities for different initiatives (e.g. access project, awareness campaigns etc.

**Context and mechanisms**

There are Locality leads in each old PCT area, some of whom have additional project leadership responsibilities. Three of the GP leads are funded by the Network to lead on various projects. This works well from a Network perspective as it ensures clinical leadership of each project and has led to the Network staff feeling well supported by primary care colleagues. One GP is the Network lead however this individual is not directly involved in any of the NAEDI initiatives. There is another GP who is also less engaged at Network level. There is some concern that there is a risk of GP leads who are not part of the project team becoming disenfranchised:

“I think with all due respect to our project team, it’s a tight knit little clique really and they’ve all got different strengths . . . I would possibly question whether the Network has got to take some responsibility about how we’re engaging with disenfranchised GPs. One lead is disconnected and the other two, maybe we should be involving them in a different way and actually giving them project work to do.”

“Getting the project team together is a lot easier than getting all the GP leads together. They’re just not as engaged with the Network.”

All GP leads are recognized by their respective CCGs, with some of them being employed by the CCG and having cancer as part of a larger portfolio. There are strong feelings within this Network that it
needs to be a GP doing these roles, as it is important to have clinical credibility. There has been an attempt to standardise a job description for the role in an attempt to provide clarity for CCGs, though this is still being drafted.

**Intervention 2 characteristics and outcome**

In one locality the GP lead is working with individual practices to identify individual practice leads. Leads have been identified in a number of practices though this is work in progress.

**Context and mechanisms**

The GP lead in that area is currently trying to negotiate with the CCG to provide incentive payments to those practices that formally identify a lead.

**North Central London Cancer Network (NCLCN)**

**Intervention 1 characteristics and outcome**

Training on leadership was offered to GP leads. An unintended bonus from the training event was improved relationships between primary and secondary care, as secondary colleagues were also undertaking the same training.

**Context and mechanisms**

The GP leads were offered the opportunity to attend a 3 day leadership course with consultant colleagues. Both groups are normally so busy they seldom get opportunity to meet and share issues and ideas. The time for discussion and networking opportunities at the event was highly valued.

**Intervention 2 characteristics and outcome**

NCLCN has been identified as a pilot site for the appointment of 2 NCAT/CRUK Facilitators to support the GPs. This pilot is to be formally evaluated as part of the NAEDI 2012/13 evaluation programme.

**Context and mechanisms**

Cancer Research UK have provided funding to support facilitators in a limited number of cancer Networks. The decision in NCLCN has been taken to appoint 2 facilitators to work alongside the GP leads, to support them and provide additional resource and project management support to practices. The post holders will be based in general practice alongside the GP leads they will be working with; they will be managed by the CRUK project manager but strongly aligned with the
Network team in terms of their day to day support. The Network views these appointments positively:

“We’ve got a new primary care cancer facilitator starting in our patch, one of the CRUK pilots in September to try to help with this, so she’ll have dedicated time to spend on working with hard to reach practices so that could be interesting.”

Central South Coast Cancer Network (CSCCN)

Intervention characteristics and outcome

The appointment of additional GP leads was vital to the Network getting better coverage of primary care. Following negotiations with Macmillan, funding was provided for an additional 4 Macmillan GP leads.

Context and mechanisms

There is a well-established, highly credible Network Lead GP and also one other established GP working within the Network. Securing additional GP capacity was essential for the ‘supporting primary care’ work to progress. Three additional post holders were appointed with the help of Macmillan funding, these appointees have geographical as well as pathway responsibilities such as early diagnosis or survivorship. In time each of the leads will also be aligned to tumour specific groups. One GP project lead was also funded and appointed by the Network. The job description for the Macmillan funded posts was developed in conjunction with the Network. The commissioners would like to see more joined up working between GP Leads and CCG roles. There is currently lack of clarity around responsibilities of cancer leads within PCOs and Macmillan GPs, though the newly appointed Macmillan GP leads will be responsible for liaising with the CCG lead in their area, and this is being monitored. The new GP leads are supported and mentored by the Network lead and the Macmillan regional lead. Line management is provided by the Network GP lead. Appraisals will be done jointly between Network lead and Macmillan lead.

The Network are also in the process of recruiting 2 CRUK/NCAT funded facilitators who will support the GPs.

Intervention 2 characteristics and outcome

A steering group has been formed to support the GP leads.

This is in its infancy and as such it is too early to identify outcomes from that forum.
Context and mechanisms

A Steering group has been formed to support new the GP leads. It consists of the new appointees including the additional GP to carry out project work, existing GP leads, Macmillan representation from managers and clinicians and Network leads. Progress regarding alignment to geographical and pathway responsibilities are good, less progress has been made relating to the site specific cancer agenda however that is still planned.

Intervention 3 characteristics and outcome

CSCCCN has been identified as a pilot site for the appointment of 2 NCAT/CRUK Facilitators to support the GPs (see above). This pilot is to be formally evaluated as part of the NAEDI 2012/13 evaluation programme.

Context and mechanisms

The decision has been taken to appoint 2 facilitators to work alongside the GP leads to support them and provide additional resource and project management support to practices. The post holders will be managed by the CRUK project manager but strongly aligned with the Network team in terms of their day to day support. The Network views these appointments as a useful addition to capacity in order to support primary care leadership initiatives:

“I think actually it’s got the potential to work really well if we can just get it going in the right direction and provide some of that continuity where the GPs can set up conversations, have peer to peer conversations and say oh by the way, I can bring in our facilitator to help you, spend some time with you, and open the door for the facilitator. So I actually think it will work really well.”

“And what we need from our project support team including the CRUK posts might be rolling up your sleeves and getting on in terms of looking at the systems, looking at processes and providing actual useful support. And it might be support about actually undertaking the audit with the GPs so rather than that kind of engagement facilitator we’re starting to think it’s going to be much more of an action orientated post”

However the Network is mindful that there are challenges in implementing new roles which have not yet been evaluated:

“Yeah I think there are issues of line management and accountability. I think the difficulty is that as you involve an increasing number of team players there’s the oversight and consistency. There is also the issue of not wanting to irritate our primary care colleagues that they’re being hit from
every direction because although for us cancer is very important, it’s one of many things in primary care. So I think it will be quite a narrow path to tread but nonetheless I think quite a constructive one. So I think the idea is good.”

Interpretation

it does not seem to matter whether the leadership comes from one individual who is seen as credible by his or her peers such as a Network GP lead or by a group of individuals working together to provide leadership around a particular issue. One core component of credible leadership is the need for clear aims and a shared vision which can be clearly articulated in a consistent manner

Networks are not always recognised by GPs, but where their role is known and understood GPs are more willing to engage with them.
6 Case studies

6.1 Central South Coast Cancer Network (CSCCN)

6.1.1 Background and Organisational Context

The Central South Coast Cancer Network covers a geographical area including South Wiltshire, Hampshire, the Channel Islands, the Isle of Wight and parts of West Sussex. This includes a wide variety of populations from rural areas and the towns of Salisbury, Winchester, Basingstoke, Chichester and Midhurst to the densely populated cities of Portsmouth and Southampton. The total population served by the Network is around 2.4 million people.

The CSCCN works in partnership with a range of organisations including:

- 3 Strategic Health Authorities; NHS South Central, NHS South Coast and South West.
- Primary Care Trusts/Clinical Commissioning Groups; NHS Hampshire, NHS Portsmouth, NHS Southampton City, NHS Isle of Wight, NHS Wiltshire, NHS West Sussex
- Cancer Centres; Portsmouth Hospitals Trust and University Hospitals Southampton NHS Foundation Trust
- Cancer Units; St Mary’s Hospital, NHS Isle of Wight. Royal Hampshire County Hospital and the North Hampshire Hospital, Hampshire Hospitals NHS Foundation Trust. Salisbury District Hospital, Salisbury NHS Foundation Trust. St Richards’s Hospital, Western Sussex Hospitals NHS Trust.
- A range of Specialist Palliative Care Providers.
- Other statutory and voluntary organisations.

The CSCCN covers a wide range of population demographics. Deprivation varies not only across PCOs but also within them. Hampshire is a relatively prosperous PCO area, containing the local authority Hart, which is ranked as the least deprived in England in the IMD 2007 scores. Hampshire also contains local authorities with high deprivation with Havant being the most deprived local authority area within the PCO area (ranked as the 126th most deprived out of 354 local authorities). The urban PCOs of Portsmouth and Southampton are ranked as the 93rd and 91st most deprived authorities in England.

In terms of ethnic diversity in CSCCN, ethnic groups account for 8% of the population comparable to England as a whole (9%). The majority of BME populations reside in Portsmouth and Southampton cities, which include people from Somali, Afghan, Iranian, Kurdish. Polish, Chinese and Filipino communities.

Southampton and Portsmouth have a slightly younger age profile compared to the national average, whereas the more rural PCOs have a slightly older age profile, most notably the Isle of Wight where 22.5% of the population are over 65 years old compared to a national average figure of 16%. 
From data for 2006 – 2008, cancer incidence for CSCCN is slightly lower than that of the UK – 386.9 VS 395.5. The 2007 age standardised cancer incidence for all tumours excluding non-melanoma skin cancer for NHS Portsmouth is significantly higher than the national, SHA and Network averages. NHS Southampton has shown a marked improvement from 2006 (413.05) to 2007 (405.40) whereas NHS Portsmouth has shown a rise 411.77 in 2006 to 431.52 in 2007. For NHS Hampshire this incidence is lower than the national average.

There is no age standardisation for survival rates. Relative survival data shows NHS Portsmouth to have a statistically significantly lower 5 year survival for Breast cancer compared to national, SHA and Network figures. One and five year survival for colorectal cancer in NHS Hampshire is statistically significantly greater than national levels. One year survival for Prostate for NHS Hampshire and NHS Portsmouth are significantly lower than national averages. For five year Prostate survival NHS Southampton is statistically significantly higher than national averages. Lung cancer survival rates are poor across the Network with one year survival being around 25-30%, falling to below 10% for five year survival. All survival rates continue to fall below the NAEDI consensus targets for Breast, Colorectal, Prostate and Lung.

The standardised mortality rates for below 75 and all ages for Portsmouth and Southampton are statistically higher than National, SHA or Network averages. The mortality rate for Hampshire for below 75 and all ages is significantly below the national average.

During 2011/12 CSCCN established a coherent structure and framework to deliver the Local Awareness and Early Diagnosis Initiative (LAEDI) agenda and could demonstrate progress in a number of key areas. The stock take reports completed as part of the review of NAEDI activity quantified this in detail. Outlined below is a summary of the progress, key challenges and priorities identified by the Network prior to submission to NCAT of 2011/12 proposals:

In 2010 a Network Lead GP was appointed. The Network lead is a practising GP and had been a cancer lead for within one of the localities for a number of years, bringing considerable knowledge and experience in cancer services to the role. The lead had begun to provide dedicated leadership into a number of key forums across the Network. His initial focus had been to support the dissemination of the practice profiles, and to increase participation in the primary care audit.

Early in 2010 the first LAEDI baseline was completed by the Network and disseminated to Network partners. The baseline helped to inform the refresh of the locality Joint Strategic Needs Assessments (JSNA). Building on this the Network commissioned QA Research to undertake a local Cancer Awareness Measure (CAM) survey during May-July 2010 focussing on the Southampton, Hampshire,
Isle of Wight and Portsmouth (SHIP) cluster. The overall report identified a number of significant areas of lack of knowledge of possible cancer signs & symptoms.

The Network also supported PCTs across Southampton, Hampshire, IOW and Portsmouth (SHIP) with a successful joint submission to NCAT for resources to deliver a social marketing project focused on colorectal cancer. The project has a clear focus on communities within areas of deprivation that have higher mortality and poorer outcomes. It aimed to raise awareness of signs and symptoms and encourage people to present earlier to their GPs. The project also involved working with GPs and other healthcare professionals to increase their awareness and confidence in recognising symptoms enabling them to make timely onward referrals for treatment.

From October 2010 the Network had also begun disseminating the National Cancer Intelligence Network (NCIN) practice level profiles. Following high level analysis of the data and benchmarking at PCT and National levels the Network GP lead had identified a number of priority practices and was using these as starting point for conversations with these practices, focusing on issues such as their referral practices and outcomes. NCAT resources had been offered to support the priority practices to participate in the primary care audit and other improvement activities.

6.1.2 Project aims

- To make a demonstrable contribution to the National target to save 5000 lives.
- To enhance GP leadership across the Network and improve the interface with secondary care.
- To target interventions effectively to ensure greatest impact in improving cancer survival outcomes.
- To develop the breadth and scale of sustainable LAEDI activity across the Network.

The central element of the CSCCN proposal was to build on initial work undertaken by the Network GP Lead. The plan was to build up a core team and capacity around this role that would support the implementation of a growing programme of primary care leadership and LAEDI interventions with the intention to scale up activity across the board.

Local awareness and early diagnosis had been identified within SHIP as one of five strategic cancer work streams for 2011/12. As part of the action planning process, The CSCCN LAEDI steering group had identified core elements for inclusion within the project plan for 2011/12:
Scaling up GP Leadership

Building on the local colorectal pilot

Lung Cancer

Upper GI (Oesophagogastric) Cancer

The LAEDI steering group had already begun a process that would extend LAEDI activity from the colorectal pilot to cover other tumour sites and focus areas. In part the initial prioritisation had been based on existing knowledge drawn from the LAEDI baseline, practice profiles, CAM, local knowledge and other existing work. The group had also been using a simple impact assessment approach to identify those areas that afford the greatest opportunity and potential to save cancer lives (contributing to the National target to save 5000 lives). For example looking at relative incidence rates against the potential outcomes (based on the difference between early and late diagnosis). In addition the LAEDI steering group had identified opportunities to combine and enhance existing projects and / or areas of good practice within a tumour area that could increase the impact in terms of effectiveness, scale and reach.

6.1.3 Description of key project elements and progress made

GP Leadership

Context and mechanisms

CSCCN aimed to increase GP cancer leadership capacity within the Network in two ways. Firstly by increasing the sessions to the current Network lead. Secondly, by recruiting a small pool of interested GPs to work sessionally and peripetically using up a fixed number of sessions across the year (minimum 100 sessions). CSCCN was also working with the Macmillan Regional Development Manager to develop a number of Macmillan GP roles.

The Network GP Lead was to oversee the implementation of a core programme of primary care focussed activity to include:

- Extending the use of the GP audit. Maintaining the programme of support offered to practices that were statistical outliers or poor performers. The emphasis on reaching the widest audience meant this was targeted via educational events and practice visits.
- Attention was to be given to large practices where improvements would lead to improvements for a larger number of patients.
- Continuing the roll-out and supported use of practice profiles. Supported by a data analyst, practices would be encouraged to interrogate their own practice profile as well as accessing other complementary data sets. The data analyst would also be able to provide support in relation to the undertaking and analysis of audits.
• Building on initial safety netting work, to develop and implement a safety netting good practice guide & toolkit - with an initial focus on colorectal screening patients. The uptake and effectiveness of this would be audited alongside the GP audit programme.

It was anticipated that increasing both the GP Leadership and project support capacity would enable CSCCN to expand the range and scale of activities within the core programme for 2011/12, these would include:

• Implementing the Risk Assessment Tool for Colorectal and Lung cancers
• Developing and implementing a programme of awareness, training and education targeted at key healthcare professional groups including GPs, nursing staff and community pharmacists.

Intervention characteristics and Outcomes

CSCCN appointed an additional 4 GP leads as intended, 3 funded by Macmillan and a 4th funded by the Network. Support is provided on a day to day basis by the Network GP Lead and Programme Lead, and a Steering group has been formed which includes Macmillan representation. Post holders have been aligned to geographical areas and have responsibility for specific parts of the pathway. Some progress has been made in aligning posts with site specific groups.

The extension of GP audit has been less successful, with only 2 practices engaging in the audit process, despite funding being available to support the process and a number of attempts being made by the Network to engage practices. It is thought that a potential reason for lack of engagement is that practices are inundated with a range of requests to carry out audits; that cancer isn’t necessarily seen as a priority; capacity in general practice is also thought to be an issue.

In an attempt to continuing engaging with practices around audit the GP Leads are now promoting a Macmillan audit which anecdotally seems to be generating more interest especially when “sold” in the context that it is needed in any case for revalidation and appraisal processes.

The appointment of a project officer who provides support with data analysis has made a significant difference to the way in which the Network can present practice profile data and respond to queries:

“it’s great having him here, we can follow things up in a more timely manner and respond to queries in a much more effective way.”

The successful, extremely well-attended education events have also provided opportunities to focus on practice profiles. Prior to the appointment of the additional GP Leads this approach was key to getting the profiles out to practices and stimulating discussion, since there was insufficient capacity
to visit individual practices. However since the appointment of the additional GP Leads there have been a significant number of requests for follow up visits to discuss individual profiles:

“There are more and more requests for all sorts of support, educational and other support, they then generate requests for practice visits.”

The work on safety netting with a focus on defaulters of colorectal screening has resulted in a template letter being produced and made available to practices. Though a number of practices have requested this, and they are also available at educational events there is currently no way of knowing how many practices are actually systematically using them. In 12 months’ time the Network intends to review colorectal screening rates, which may give some indication of impact. Work to implement safety netting protocols for primary care is being further progressed through learning and development events and individual practice visits. There is anecdotal evidence of good uptake of safety netting messages including noting CXR requests for follow up of results and encouraging GPs to make four week follow up appointments for patients who have been referred via a 2 week wait pathway, in order to review the outcome and provide support if necessary.

The Risk Assessment tools have been circulated to all practices; in addition the colorectal RAT has been incorporated into a new 2 week wait proforma. There is currently no way of knowing how frequently and systematically the risk assessment tools are being used, particularly for lung cancer, however a formal evaluation of colorectal risk assessment use is planned by the Network.

The education programme for CSCCN is well developed particularly for GPs and other practice staff. The programme covers a variety of cancer issues, events are often labelled as RCGP or LMC which seems to encourage attendance and where possible existing fora are used:

“At the last RCGP event we had well over 100 participants, that’s excellent really”

Education of other professionals was not a feature which came out in any of the interviews.

Interpretation

Engaging the wider GP/primary care population around the cancer agenda remains a challenge for the Network. Despite using a variety of engagement approaches and having significant success the Network feels it is important to acknowledge how time consuming and resource intensive such initiatives are. Increased pressure and uncertainty created by organisational change and the development of newly emerging organisations such as CCGs has undoubtedly made the task more difficult than if the Network been working with stable, well-established organisations.
An unforeseen aspect of PCT clustering and transition arrangements during the project period was the variation in the role of GP clinical leads. For example the Isle of Wight had extended the number of GP clinical lead roles to support the CCG development whereas other localities had removed them completely. This was having significant impact on GP leadership capacity across the Network, though this maybe resolved with the appointment of the new Macmillan GP lead roles.

**Increasing Public Health Capacity**

**Context and mechanisms**

As part of this project CSCCN were also seeking to provide a minimum of one additional PA per week of Public Health Consultant time to increase public health leadership capacity across the Network. This role would focus on the development of the LAEDI self-assessment framework, working in an advisory role across primary care and wider partnerships such as local authorities and commissioning. The role would also support the roll out of national and local campaigns and in addition would enhance GP Leadership and primary care engagement.

There still remains a lot of uncertainty and anxiety about what the move of Public Health into local authorities will really mean in the future, and there are also concerns about Public Health England’s role in screening, particularly in relation to who will manage issues with the screening services at a local operational level. In the context of uncertainty caused by such large scale organisational change there is real concern that people will become distracted from the day job and what matters and also if staff get involved in other priorities momentum and expertise will be lost:

“**The move of Public Health into localities hasn’t really started to affect us yet but you worry that they (Public Health) will become increasingly tied up with local authority priorities to the detriment of health**”

“**Whilst people are getting on and making sure the job is getting done, there is always a concern that they get bogged down in the politics with a little p of moving organisation and so there is a risk of them becoming distracted and the day job suffering as a result.”**

**Intervention characteristics and Outcomes**

Network Public Health Capacity continues to come primarily from Public Health Consultants from within the localities, none of whom have a supportive function to the Network in their current job descriptions.
**Interpretation**

Dedicated Public Health capacity remains an issue going into the future. Whilst the move into local authorities has not impacted greatly at the moment at an operational level the real impact of the shift is yet to be seen and there are concerns that public health will get drawn in to the local authorities’ agendas to the detriment of the cancer related work.

**Building on the colorectal pilot**

**Context and mechanisms**

The local bower cancer awareness pilot was in its delivery phase at the time the proposals for 2011/12 were submitted. A key priority for CSCCN was to build on the learning from this project and to sustain the momentum that had been generated locally. The main focus of activity within the colorectal project to that point had been the development and delivery of a social marketing campaign. There was a real commitment from key stakeholders in primary and secondary care to build on the interest and engagement gained through the colorectal pilot.

Within 2011/12 the LAEDI programme aimed to:

- Implement the primary care Risk Assessment Tool (RAT)
- Improve formal and informal dialogue & interface with secondary care (including the colorectal Network Site Specific Group (NSSG)).
- Develop a detailed understanding and measurement of capacity and demand within primary and secondary care.
- Standardise 2WW referral protocols and practice across the Network.
- Develop feedback loops between secondary and primary care in relation to 2ww and emergency presentations.
- Undertake baseline analysis and develop a business case for improving diagnostic pathways for colorectal and lung in line with revised NICE guidelines working with a range of stakeholders.
- Support the roll out of National awareness programmes including trying to sustain activities developed as part of the colorectal pilot such as building on the awareness sessions for healthcare professionals.
- Extend the roll out of safety netting guidance as part of a wider safety netting toolkit.
• Extend and repeat elements of the campaign impact evaluation.

• Utilise the insight and campaign development to support roll out to other priority tumour sites

**Intervention characteristics and Outcomes:**

Significant progress has been made towards improving dialogue and interface with secondary care and work with the Colorectal group and other stakeholders has resulted in the development of a standardised 2 week wait referral proforma which has also incorporated the colorectal RAT, anecdotally people seem to be using the proforma and RAT and an audit is planned for 12 months following its introduction. Work has also been carried out understand capacity and demand issues within both primary and secondary care.

The National awareness campaigns have also been supported by the Network and within individual GP practices. In addition safety netting guidance has been rolled out to all practices. Template letters have also been developed for practices to send to those who default on colorectal screening invitations, and this work is forming the basis of templates for other screening programmes.

**Interpretation**

It is clear that clinicians from primary and secondary care value coming together in order to improve a patient pathway, however it must be recognised that skilled facilitation from the Network is key to achieving the desired outcome.

The work with colorectal cancer has progressed well, audit of the 2 week wait referral form/Colorectal RAT should inform the next stage of this work.

**Lung**

**Context and mechanisms**

There is a high incidence of lung cancer within at least two localities (NHS Portsmouth and NHS Southampton) making this a priority for CSCCN. Undertaking modelling and review of the care pathway was one of the interlinked work streams for the Network, which to that point had focussed on secondary care interventions. Within 2011/12 the LAEDI programme aimed to:

• Implement the primary care Risk Assessment Tool (RAT) for Lung (alongside colorectal)

• Incorporate symptom recognition as part of the training programme for healthcare professionals.
• Ensure rapid access to diagnostics (CXR/CT to speed diagnosis). Streamlining the diagnostic pathway, eliminating unnecessary steps and improving timely information flow to MDTs to aid earlier diagnosis. The initial focus will be on primary care, A & E and MAU.

• Implement safety netting protocols for primary care.

• Align lung activity with the launch of a new breathlessness service, across SHIP and the wider SHA region during 2011 and link into both the National COPD strategy and the National Lung Health campaign later in the year.

Intervention characteristics and Outcomes:

The RAT for Lung was circulated to all GPs though the Network is currently unable to quantify its use. Plans exist to incorporate it into the 2week wait referral proforma for lung although implementation has not yet taken place.

Training in relation to symptom recognition has been incorporated into the introduction of the lung RAT, in addition the Network ran a primary care education day which was filmed and circulated to support learning across primary care.

CSCCN has undertaken some joint work with Roche to deliver a review of diagnostic pathways and applying this to a modelling tool which will be used to generate a variety of scenarios to inform potential service quality and cost estimates. Work has also been undertaken to scope CXR provision.

The Macmillan GP work programme has progressed the implementation of safety netting protocols through learning and development events and individual practice visits. Anecdotally there has been good uptake of safety netting messages and GPs have been encouraged to follow up CXR results and to make four week follow up appointments for patients who have been referred via a 2 week wait referral pathway.

The intention to align this activity with the launch of a new breathlessness service has not formally progressed, however the SHA Clinical Lead helped in the development of the lung education day and CSCCN has ongoing links with the service.

Interpretation

As a result of the positive feedback from its learning events the Network has subsequently been invited to participate in numerous other events including doing some joint work with private healthcare providers to promote GP cancer symptom awareness and referral guidance.
Widening stakeholder engagement and ensuring that the increasing early detection and diagnosis is seen as everyone’s business and is built into all pathways of care was a key aspiration and an acknowledged challenge identified by CSCCN. The Network has been innovative in working with partners in industry and the private sector as well as traditional partners in order to achieve this. Although good progress has been made it must be recognised that this is an ongoing process.

Using evidence to highlight the effectiveness and importance of improving early detection and diagnosis in improving outcomes and translating this into commissioning activity and service development was identified in the initial 2011/12 proposals as a key challenge, the Network is addressing this challenge via the joint work with Roche.

The CXR provision and practice work has developed to a point where it now about to be prioritised by the imaging group in relation to the NHS GP Access to Diagnostics ambition.

Upper GI

Context and mechanisms

An initial impact analysis had identified that work on upper GI cancers could result in demonstrable outcomes for CSCCN. Improving the quality of two week wait referrals and ensuring that patients with symptoms suspicious of UGI cancer have timely access to diagnosis and treatment could significantly improve patient outcomes—both in terms of mortality and morbidity. CSCCN clinicians at both Southampton and Portsmouth Cancer Centres are providing innovative interventions in managing early cancers.

The Network aimed to ensure referral is equitable and streamlined to these services.

Within 2011/12 the LAEDI intervention aimed to:

- Review the 2WW referral criteria with both primary and secondary care clinicians to agree and implement a standard proforma.
- Provide training and education to GPs around indications for referral.
- Develop and agree feedback loop and safety netting between secondary/primary care in relation to referral practice
- Undertake a review of current demand and capacity within diagnostic clinics using modelling tools to support Trusts to identify improvements.
- Support effective management systems for two week wait referrals across primary and secondary care.
- Reduce emergency presentations
- Ensure that patients are diagnosed at earliest possible stage of disease

**Intervention characteristics and Outcomes:**

The joint work with Roche to deliver a review of diagnostic pathways and applying this to a modelling tool which will be used to generate a variety of scenarios to inform potential service quality and cost estimates could also be applied to the Upper GI work.

Training in relation to symptom recognition has been provided and evaluated well.

The Macmillan GP work programme has progressed the implementation of safety netting protocols through learning and development events and individual practice visits. Anecdotally there has been good uptake of safety netting messages and GPs have been encouraged to make four week follow up appointments for patients who have been referred via a 2 week wait referral pathway.

**Interpretation**

The issues for Upper GI pathways are similar to those for lung and colorectal cancer, which have already been discussed.

### 6.2 North Central London Cancer Network and West Essex Cancer Commissioning Network (NCL&WECCN)

The North Central London and West Essex Cancer Commissioning Network (NCL&WECCN) covers a geographical area representing a population base of approximately 1.5 million covering six PCT’s. There are nine acute hospital providers delivering a wide range of secondary (general hospital) and tertiary (specialist hospital) care. Within the Network 5,500 new cases of cancer are diagnosed each year resulting in over 12,000 episodes of treatment for cancer, including, surgery, chemotherapy, radiotherapy and palliative care.

The Local Awareness and Early Diagnosis Initiative (LAEDI) baseline undertaken in 2010 produced a comprehensive set of key cancer metrics (incidence, premature mortality, 1 & 5 year survival and staging data) providing an unprecedented level of cancer health intelligence with which to understand the cancer landscape within the sector, benchmarked against London, England and the best in Europe. Key challenges for the Network include:
Breast – one-year survival is lower than the England average and on a par with the London average, however five-year survival in the sector is lower than both London and England rates. There are also differences between boroughs with Barnet having a lower mortality compared to England, and a lower one-year survival; Haringey has a lower five-year survival when compared to England.

Colorectal – one and five-year survival rates are lower than both London and England averages; in particular Enfield and Barnet have a lower one-year survival than England; Enfield a lower five-year survival than England.

Prostate – second most common cancer in the Network, one and five-year survival rates are higher than both London and England averages.

Lung – one and five-year survival rates are on a par with London average and are fractionally higher than the England rate. Islington has a very high incidence and mortality but one-year survival is not significantly different from the Scandinavian countries.

Oesophageal cancer has a higher profile of late (stage 4) diagnosis than London and South East England.

6.2.1 Background and Organisational Context

The proposed 2011/12 work streams supported the delivery of both national and local early diagnosis and detection initiatives. The outcomes of the projects were aligned with the national commitment to bring England’s survival rates up to European average, by 2014/15; this equates to saving roughly 1,000 lives each year in London. The recently published NCL & WE CCN Cancer Commissioning strategy has as its central aim ‘to improve survival rates through early detection and provision of high quality, efficient, equitable, and patient centred care across all healthcare settings within North Central London and West Essex’. This strategy, and its aims, is embedded within the delivery system of the NCL commissioning Cluster and there are plans for it to be transitioned into the emerging commissioning support unit (CSU) as it develops.

The proposed work streams built upon existing improvement and leadership initiatives which were already being undertaken within NCL&WECCN, they formed part of a programme of work aimed at earlier diagnosis, improving outcomes, pathway development and engagement between primary and secondary care. The NCLCN has worked to link their work with the pan London NAEDI programme.
During the period of this evaluation the NCL & WE CCN were subject to substantial reorganisation and organisational change that has been influenced by wider health service reforms. There has been a constantly changing landscape, key posts within the Network team have been at risk and there has been a real risk of losing expertise and organisational memory. New structures are emerging at a Pan London level, impacting upon the way in which provider, commissioning and public health teams are configured. Whilst these new will undoubtedly offer new opportunities for progressing earlier diagnosis and detection in the future, the transition period represents a risk to the continuity and longevity of existing programmes of work.

Prior to the commencement of the 2011/12 project the NCL & WE CCN were running a NAEDI funded colorectal cancer improvement programme. One of the key elements of this project was developing insight into how to improve the interface between primary and secondary care through bringing GPs and secondary care clinicians together to problem solve and develop interventions through a process of collaborative enquiry and face to face interactions. It was proposed that this methodology would be used again. This approach also supported existing activities occurring within the Network such as the introduction of practice profiles and RCGP audit.

In addition to aligning with both national and local intentions the proposed 2011/12 project also included a commitment to pan-London coherence with regard to the 5 London Networks. The bids submitted by the 5 London Cancer Networks were intended to support the London strategic plan being developed to improve early diagnosis. This in turn would feed into the London Commissioning Strategy Plans and where appropriate into London Commissioning Intentions.

The 2011/12 project was designed to run across the NCL & WE CCN, therefore it had the potential to reach over 871 GPs across 278 practices and could therefore significantly increase the reach of NAEDI to primary care. In addition, a public awareness campaign for lung cancer had recently been delivered across Islington, and the 2011/12 project aimed to build upon the success of that project.

6.2.2 Project aims:

- To support GP leadership.
- To increase the reach of NAEDI to local GPs and their Practices.
- To ensure appropriate treatment at an earlier stage.
- To improve 1 & 5 year Survival.
To increase % of diagnosis via 2 week wait.

To reduce % of diagnoses via emergency presentation.

To reduce the proportion of late stage presentation.

To increase the proportion of early stage diagnosis.

To increase uptake of thoracic surgery (lung).

To increase access and timeliness feedback to straight to test (chest x-ray for suspected lung cancer).

To improve referral interface between primary and secondary care.

To promote engagement / communication between primary and secondary care.

To increase the number of GPs that are aware of the importance of early diagnosis.

To develop practice and learning through reflective practice.

To share learning, innovation, best practice and evidence.

To improve GP confidence and ability to recognise signs and symptoms of cancer.

6.2.3 Description of key elements and progress made:

The proposals were split into 2 work streams:

Work stream 1 – Local improvement initiative for General Practice, which focused on improving outcomes for lung and oesophageal cancers. These cancers were chosen after reviewing Network base line data, the delivery of the project was to be informed by the learning from the previous NAEDI funded colorectal improvement project.

A stakeholder engagement event was planned to launch the project and bring together primary and secondary care clinicians to agree interventions for improving outcomes in lung and oesophageal cancers within the Network: The type of interventions that were anticipated (based on outputs from the colorectal improvement programme) included:
- Pathway redesign (including straight to test and timely feedback of results for Chest x-ray)
- A revised set of local guidelines for GPs to help clarify some of the current confusion about symptoms, risk, tests and referral pathways.
- Revised 2 week wait form for pan Network use.
- The development of a simple training package to support GPs in becoming familiar with these materials and using them.
- A lung and Oesophageal improvement programme engagement event for GPs, practice nurses, hospital specialists and patient representatives. This could be used to:
  - Present current Cancer Network performance
  - Launch the new referral form
  - Showcase family history taking
  - Provide the ‘bite sized training’ noted above
  - Provide an opportunity to explore with patient representatives the improvements they would like to see in their experience of cancer diagnosis and treatment.
  - Reflect on current practice
  - Consider clinical cases

**Lung cancer**

**Context and Mechanisms**

Lung Cancer was selected as a tumour type to concentrate on as it is the third most common cancer in NCL&WE CCN as a whole (2006-08), in Islington it is the most common cancer. There are around 730 lung cancers detected each year in North Central London and West Essex – a figure that is broadly matched by the number of deaths from the disease. In order to further understand the exact nature of the problem to be addressed, Islington Public Health department were commissioned to undertake data analysis of readily available data, including the LAEDI baseline, as well as data specifically requested from Thames Cancer Registry (TCR) and the Eastern Cancer Registration and Information Centre (ECRIC), including staging data.

From the local Public Health analysis it was evident that the high incidence and mortality from lung cancer reflect high smoking prevalence and that reducing smoking prevalence is key to primary prevention. NLCN survival rates are not significantly different from England but international comparisons highlight potential survival gains. Late presentation / late stage at diagnosis remain key
factors in poorer survival for the area although the public health work also acknowledges that health system factors also play a key role in addition to population / patient related factors e.g. delays in diagnosis and treatment.

A stakeholder event was held focusing on lung and oesophageal cancers. The event was formally launched at the workshop on 29th November 2011 and was attended by around 40 people, including the primary care cancer leads, public health specialists, consultants and specialist cancer nurses and managers from the Cancer Network. The purpose of the event was to review the early diagnosis pathways and to identify any obstacles to early diagnosis and examine how to resolve them. The event also aimed to assess what tools and approaches could be used to improve identification, referral and diagnosis of these cancers and the priorities for the NAEDI programme. The discussions held at this event formed the basis for all of the subsequent project work.

**Intervention Characteristics and Outcomes**

The use of significant event audit was identified at the stakeholder event as a means of identifying what could be done to improve early diagnosis. This was not actioned in the timeframe of the project and it has since been left to the discretion of the Trusts to carry this out.

A lung cancer resource pack for GPs similar to that previously produced for colorectal cancer was planned; this was developed in conjunction with key stakeholders and delivered to all 300 practices in the Network. The Network has no way of knowing if and how these packs are being used and feedback has been limited, however there has been some feedback to indicate some people have found them useful:

“I know they’ve gone to all practices because I’ve had a few comments on them, all positive, people like something to refer to and I think they are viewed as a useful resource for other staff within the practice too.”

Rapid reporting of chest x ray results back to GPs was identified as an important issue to address. A Network standard of a maximum of 1 week was suggested at the stakeholder event as was a simpler grading system, such as the one which has been developed in Leicestershire. This work is still ongoing, to some extent it has been superseded by the acute contracting process, part of which involves the development of reporting standards.

Two week wait referral forms were identified as being in need of an update. At the stakeholder event it was suggested that they could be adapted to include a section on what the GP has told the
patient and what information they have been given. This was done as were some updates relating to format. The forms also now include contact details for the relevant consultants at the acute trust.

The LAEDI local engagement programme commenced in late November 2011 and further community lung cancer awareness was embarked in March 2012. The national Lung Cancer Awareness Campaign took place in May 2012 for eight weeks. The total Network figures show an increase in 2 week wait referrals in the last quarter of April to June 2012. Similar effects were seen in West Essex.

**Oesophageal Cancer**

*Context and Mechanisms*

The incidence of oesophageal cancer is rising across the UK. As well as smoking, the risk factors for this cancer are obesity, alcohol and gastro-oesophageal reflux. There are 119 deaths on average per year in the Network from OG cancer, 6011 in England. Barnet, Enfield, Haringey and the Network as a whole have mortality significantly lower than England. The Network rate is very slightly higher, in common with the national rate, though the London rate remains stable. Oesophageal cancer was chosen as an area for development because there were inequities in access and there was also a motivated lead clinician wishing to address these issues.

These initiatives were planned at a time of large scale organisational change which were affecting both commissioners and provider services. These changes led to issues recruiting staff and a changing landscape in terms of emerging organisations and a resulting shift in responsibility of certain areas of work for example from the Cancer Network to the Integrated Cancer System.

From the stakeholder engagement event, key actions for oesophageal cancer were agreed including:

- development of a set of direct questions for GPs to use or a patient questionnaire
- a review of diagnostic capacity
- a specification for a one-stop clinic and streamlined pathway
- improved information about treatment plans for patients who have had endoscopies.

There was also agreement that information fed back to practices on late stage diagnoses would be helpful, although the numbers are likely to be small.

*Intervention characteristics and Outcomes*

The development of a set of direct questions that GPs could use with patients identified as having a higher risk was not delivered as part of the project on the grounds that this would be included within
a RAT which it was thought was already in development for Oesophageal cancer. Improving information about treatment plans for endoscopy patients was also not addressed as part of the project as on further reflection this was deemed the responsibility of individual acute trusts as well as being in the domain of the provider Network to address.

Given the time limits of the project, participants agreed that the top priority for oesophageal cancer was the development of a one-stop shop clinic and simplified referral pathway.

As part of this work a review of diagnostic capacity was undertaken. This was needed to assess the Networks ability to cope with patients over 50 with relevant symptoms. There were also potential opportunities to develop endoscopy capacity through new clinical support roles. This review showed that no further action was required as capacity was deemed to be sufficient to cope with demand.

A more streamlined referral pathway has been developed as part of the project through the redesign of the 2 week wait referral forms thus ensuring that patients follow the correct pathway depending on their presenting symptoms. However whilst streamlining the pathway was relatively easy for the clinicians involved it must be noted that the process of getting documentation through various governance committees proved hugely frustrating and time consuming:

“So we redesigned the pathway and associated documentation, and that was relatively straight forward. What took the time was getting it through governance; it’s all very good getting it through your own organisation but then you have to go to all the others all of whom have different systems and processes. It really is frustrating and it means you can’t act as quickly as you would like to improve things for patients”

Organisational structures are changing in this area and a pan London organisation - London Cancer - will be responsible for updating documentation and ensuring equity and, where possible, a degree of standardisation across the board.

A briefing paper was produced on the viability of implementing one stop clinics across the Network. Such a development would simplify the referral process for GPs and leave the decision about whether the patient needs an endoscopy to the hospital specialists. Some hospitals had already tried this approach but found it difficult to get the results from the endoscopies processed sufficiently quickly to allow patients to get their results on the same day. Prior to this work being undertaken there was some expectation that the clinic would be the right way forward, however the outcome of this scoping work was that following careful review of the research and evidence base it was decided in partnership with the Clinical Lead not to support the implementation of a one stop clinic:
“It’s interesting isn’t it, sometimes you are quite sure that something is the best way forward and in the old days you would have gone ahead and done it but when we looked at the evidence base we found there was nothing to support the development of a one stop clinic so the decision was taken not to go any further in terms of implementing it.”

Interpretation

A number of overarching project aims particularly those relating to improving the primary/secondary care interface have been achieved although due to the tight timescales of the project, and issues relating to organisational change some of the aspirations resulting from the stakeholder events did not materialise in the way they were anticipated. A prime example of this was the inability to update the lung and OG 2 week wait referral forms due to interdependences with other work; updates of referral forms have now become part of a wider update of all 2 week wait forms by London Cancer.

Organisational change has also had a huge impact in terms of concern for the future. There is real concern that due to restructuring staff will be lost which will in turn lead to a skills shortage within the organisation and a potential loss of organisational memory. This was a concern echoed in a number of interviews as staff have developed considerably in their skills and confidence during the duration of the project and it would be a significant organisational issue should those staff and their skills be lost, posing a risk to the sustainability of awareness and early diagnosis work.

As the project has progressed there has been a relocation of Public Health teams into local authorities and it has been increasingly difficult to maintain public health input (with the exception of one area) into the NAEDI programme board and into the programme more generally. It must also be acknowledged that once these changes become embedded there may be opportunities presented by these new partnerships.

It needs to be recognised that a number of quantitative project aims were longer term and could not be reported on at the time of this evaluation, for example improving 1and 5 year survival rates. No data were available at this stage relating to conversion rates, diagnoses via emergency presentation, uptake of thoracic surgery or stage of presentation.

Work stream 2 - GP leadership - A programme of disseminated learning through GP leadership and reflective practice
This part of the project aimed to focus on GP leadership and developing professional practice through reflective practice, clinical inquiry and peer to peer support. It would also provide an opportunity to identify and disseminate existing educational and developmental tools already in place to support General Practice; these would include the practice profiles and RAT. This work aimed to build and develop the strength of the clinical engagement events run as part of the colorectal improvement programme.

It was proposed that in each of the 6 PCT’s within the Network, 2 reflective practice sessions would be initiated over a 6 month period. Each session would have a GP lead present and a clinical facilitator. The sessions would be externally facilitated. The GP lead would use clinical exemplars to stimulate discussion, best practice and learning, and raise awareness of NAEDI projects and the role of GPs within the programme.

The sessions would be accredited, and could therefore be used by GPs for appraisal and revalidation purposes. The sessions were to be available to all GPs within the Network, optimum group sizes were anticipated to be 8-12 participants.

In addition, 8 sessions of GP time were scheduled to progress the Network programme of redeveloping the existing 2 week wait referral forms for all tumour sites and to engage with the existing work programme of clinical pathway redesign. This would ensure that as the clinical commissioning pathways were developed for each tumour site and formed the basis for commissioning cancer care from 2012/13, emergent commissioners would have access to expertise re awareness and early diagnosis via pathway development.

**Context and Mechanisms**

The early diagnosis programme of work led by the NCL&WE CCN was supported and driven by the Primary Care Cancer Leads for each borough, each project had a dedicated Primary Care Cancer Lead who provided the primary care clinical expertise, engaged with their GP colleagues and represented the work at relevant primary care forums. At the heart of the GP leadership work was the aim of coproduction of interventions to address referral delay between primary and secondary care clinicians. Scoping identified a range of such initiatives.

At the stakeholder engagement event held prior to the commencement of the project it was agreed that while some cancer services are likely to be commissioned as specialist services by the National Commissioning Board the role of primary care cancer leads continues to be important at the Clinical Commissioning Group (CCG) level. GP leads could operate as ‘cancer champions’ for their CCG. Some concerns were expressed about the capacity of primary care cancer leads to cover all tumour groups.
and therefore some prioritisation would be needed to make best use of their time and recognising the capacity of primary care. It was felt that Primary Care cancer leads should enable CCGs to mobilise the leadership capacity within other professional groups such as pharmacists, public health and practice nursing. Some stakeholders felt that it would be helpful if each practice had a nominated lead for cancer to assist the process of cascading information and updates. These suggestions are now being embedded within the emergent CCGs and Commissioning Support Unit (CSU).

The NCL&WE CCN have worked closely with the North East London Cancer Network as the future configuration including the CSU will cover both areas. The Cancer Commissioning Team (CCT), which will sit within the CSU, will be in place by the end of 2012. With the changes to Cancer Networks and commissioning arrangements proposed for London the Cancer Network are seeking to ensure that primary care cancer leads are maintained in the new system.

In total 3 workshop events were held as part of the project. They aimed to bring together GPs and Secondary Care to discuss care across the patient pathway.

The Network also promoted an opportunity for GP leads to attend a 3 day leadership course. This was aimed at secondary and primary care clinicians and provided the opportunity for clinicians to Network in addition to the formal course content.

**Intervention characteristics and Outcomes**

To further develop GP leadership across the sector and as an outcome of this project, a Network GP lead has been appointed for three sessions per week.

The role of the GP lead includes:

- Providing GP leadership for the early diagnosis and detection programmes across the Network
- Providing clinical support and advice to CCG’s on issues related to cancer commissioning
- Ensuring clinical (GP) leadership for the local improvement initiatives ensuring the involvement of emerging Clinical Commissioning Groups and commissioning support services.
- Supporting the development of education and training of GPs related to cancer and the contribution of awareness, early diagnosis and detection to improving outcomes
In total of 54 GPs attended the workshop events. They aimed to bring together GPs and Secondary Care and there is anecdotal evidence to suggest that they were valued and that they achieved their aim:

“I’ve had quite a lot of feedback from the events, most GPs have said they were useful and they liked the opportunity to meet with and share with their secondary care colleagues.”

“So yes the events were good it’s always good to meet with colleagues and from my perspective I wouldn’t necessarily get to meet GPs in many other forums, and there are not really many useful other mechanisms for sharing ideas across primary and secondary care.”

There is lack of clarity regarding the number of GPs who undertook the leadership training, but one who did commented:

“It was good, really good but the real benefit for me was the opportunity for me to meet and share, Network really with my consultant colleagues, we don’t get that in our day to day work as we are all so busy getting on with the job, but it’s really nice to have time to think and build relationships with people.”

The additional benefit of opportunities for primary and secondary care clinicians to interact in informal settings seems to have been beneficial and highly valued by both GPs and Consultants alike.

**Interpretation**

As the Network GP Lead has been recently appointed it is too early to evaluate the impact of that post on this project.

With regards the interface between primary and secondary care the case study interviews indicate that where efforts were made to bring primary and secondary care clinicians together to discuss pathways, this has had a positive effect in supporting pathway redesign and improving awareness of each other’s roles. It is less clear as to how it has resulted in changes in individual practice or whether it has increased specific disease related knowledge.

In terms of GP education, whilst the events were fairly well attended and anecdotally well received, questions remain about how best to reach all GPs and in particular how to engage with those who are not interested in cancer or have not historically engaged in anything outside their practice.

**6.3 North of England Cancer Network (NECN)**

129
The North of England Cancer Network covers a large geographical area including Northumberland, North Cumbria, North Tyneside, South Tyneside, County Durham and Darlington, Teesside and parts of North Yorkshire. This includes a wide range of health populations from the rural areas in Northumberland, North Cumbria and County Durham to large conurbations of Teesside and North and South Tyneside. There are some large towns and cities such as Newcastle, Sunderland, Gateshead, Durham and Middlesbrough mainly centred on the conurbations mentioned. There are large pockets of deprivation mainly though not confined to, the areas around the rivers Tees, Tyne and Wear, mixed with some smaller highly affluent areas close by. The total population served by the Network is around 3 million.

The North of England Cancer Network works in partnership with a range of different organisations including:

- The 3 Strategic Health Authorities of the North of England
- 14 Primary Care Trusts/Clinical Commissioning Groups from the following cluster areas Cumbria, NHS North of Tyne, NHS South of Tyne, NHS County Durham and Darlington, NHS North of Tees, NHS South of Tees, NHS North Yorkshire
- Cancer Centres:
  - Northern Centre for Cancer Care, Freeman Hospital Newcastle and James Cook University Hospital, Middlesbrough.
- Cancer Units: Wansbeck General Hospital, North Tyneside General Hospital, South Tyneside General Hospital, Sunderland Royal, Freeman Hospital, Royal Victoria Infirmary, Hexham General Hospital, Cumberland Infirmary, West Cumberland Infirmary, Queen Elizabeth Hospital, Shotley Bridge Hospital, University Hospital North Durham, Bishop Auckland General Hospital, Darlington Memorial Hospital, James Cook University Hospital, Friarage Hospital. University Hospital of North Tees
- A range of Specialist Palliative Care Providers
- Other statutory and voluntary organisations

Primary Care Organisations (PCOs) in the NECN area have some of the highest rates for incidence of cancer in England, with most being above the national average. 8 of the PCOs are ranked in the bottom quartile (i.e. they have the highest rates) of all PCOs in England. As a Network the NECN is ranked 4th (in terms of highest incidence rates) out of the 28 cancer Networks in England.

6.3.1 Background and Organisational Context

The NECN was formed following the merger of two already well-established Networks, the Northern Cancer Network and the Cancer Care Alliance.
In 2010 NECN invited the Health Inequalities National Support Team (HINST) to review the Network performance in relation to inequalities. The review was completed in September 2010 and presented at the Network Annual Conference later that month. The reviewers were generally very supportive of the Network’s strategic approach. One of the suggestions they made was that NECN should bring together key stakeholders including providers, commissioners, primary and secondary care and users from across the whole cancer pathway to look at making improvements. In response NECN facilitated a two day (Accelerated Solutions) workshop ‘Finding 1000 People Lives, Saving 1000 lives’ in April 2011 bringing together approximately 100 healthcare professionals. There was excellent representation from both primary and secondary care across the pathways including a high number of GPs. A strategy was developed to take forward the initiatives identified in the workshop and this is reflected in the NECN work plan. Several improvement initiatives were identified in the workshop and these formed the basis of the 2011/12 proposals for Supporting Primary Care which were submitted to NAEDI.

The North of England Cancer Network’s (NECN) most recent work plan 2011 –2013, had been approved by the NECN Board and already recognised the importance of awareness and early diagnosis in improving survival rates. The work plan identified several work streams to support NAEDI at a local level. The plan also incorporated the outputs from the ‘Finding 1000 lives, Saving 1000 lives’ event. NECN had developed a matrix using nationally published data to estimate how many lives could be saved by cancer site if the initiatives identified in the ‘Finding 1000 People, Saving 1000 lives’ workshop were implemented.

Previous initiatives undertaken by the Network included:

- LAEDI projects (hosted in 4 PCTs)
- Significant Event Audits
- Participation in the Cancer Diagnosis in Primary Care Audit
- Cancer Awareness Measure surveys carried out by all PCT clusters across NECN
- Service Improvement workshops in primary care and with radiology using Virginia Mason Production System as an improvement tool
- Visits to practices to consider their practice profiles
- Local early awareness campaign with the public
In February 2011, NECN began into a partnership with Cancer Research UK’s Race for Life and Bauer Media, who operate several of the region’s major radio stations, to launch the North of England’s ‘Be Clear on Cancer’ campaign. The partnership, which included significant airtime on the radio stations, 12 race for life events, recruitment events for racers, a dedicated website, radio adverts, a dedicated edition of Alan Robson’s Night Owls (a well-established radio talk show) took place over five months until the last race was held in Newcastle in July 2011.

Nationally produced Be Clear on Cancer materials were used. A total of 16 case studies were sourced including five health professionals and 11 ambassadors covering NECN. They shared their real life stories for the five featured cancers.

This was the first part of the NECN regional ‘Be Clear on Cancer’ campaign which supports national campaigns.

6.3.2 Project aim(s)

- To develop local GP Leadership to support and promote national and regional communication campaigns on early awareness of cancer signs and symptoms.

- To increase the number of GPs who are more aware of the importance of early diagnosis and their role in improving survival outcomes.

- To implement local improvement initiatives that are delivered in general practices, building on work to date by established GP Leads.

- To provide programmes of education

- To appoint a GP Lead and Project Manager

- To assemble baseline data and evaluation methods

- To agree a detailed work plan with the LAEDI Steering group

Initial discussions with Directors of Commissioning indicated their interest in potentially supporting the 2011/12 work with some matched funding and also in providing an important link into GP Consortia.

This local improvement initiative funding was to be used to take forward work that had been identified previously by GP Leads and health care professionals from across the extended pathway in NECN.
6.3.3 Description of key project elements and progress made:

Education

Context and Mechanisms

NECN planned a 9 month programme of education for GPs (including forums for discussion of complex cases and refreshers with secondary care). The intention was to attach sessions to CCG and LMC events on a range of related topics, for example linking with cardiovascular disease (CVD) to try to improve attendance/stimulate interest in a different audience. These events were generally to be delivered within localities. It was anticipated that the ensuing discussions would stimulate change in practice.

The mismatch of expectations between GPs and specialists is widely acknowledged. The network wished to develop closer collaboration between the two by aligning GPs to Network Site Specific groups in order to ensure a primary care perspective. The intention was that the primary care interface would be reviewed and site specific information would be cascaded back to their GP colleagues. The education programme would be one avenue by which this was done.

Intervention characteristics and Outcomes

Education events covered a range of topics, with the most popular format being formal presentation followed by discussion. Locality based events were often facilitated by the local GP Lead. Anecdotally this approach seemed attractive to peers and attendance was good, except for one locality where the GP Lead was less well known to his counterparts.

Anecdotally GP leads and Network staff report that many cancer only events seem to attract the same individuals:

“Yes we’ve had some good events, well attended with positive feedback.”

“It’s all well and good doing these events, and don’t get me wrong attendance is good, but you see the same faces every time, the same motivated individuals who are interested in cancer and pretty much they always come, but what about those practices who don’t engage or who think they don’t need to because they know it all. The real challenge is getting them to engage and I don’t think we’ve really got a clue about how to crack that one.”

The majority of the education events were organised by the NECN and hosted jointly with the North of England Cardiovascular Disease Network (NECVN). Most sessions were held on an evening and
although some day time Time in/Time out sessions were utilised this was more difficult as their focus increasingly centred on commissioning and the development of CCGs.

In the original proposal NECN aimed to reach 50% (220) of practices,. In reality the education sessions were analysed by the number of GPs who attended. In total there were 10 Education sessions held across the Network, these comprised of lung and colorectal sessions and 1 session focusing on multiple cancers, attended by a total of 334 GPs. In all the sessions a range of generic issues such as risk assessment and safety netting were discussed. In most instances these events were facilitated by the local GP lead with site specific information provided by a secondary care colleague, the discussions which ensued were often facilitated by primary/secondary care leads jointly.

As well as raising awareness of specific cancer related issues these education events often had the consequence of improving relationships between primary and secondary care clinicians:

“They’ve been really good and many of my colleagues have valued seeing their secondary care colleagues on a face to face basis, it’s nice to know who you refer your patients too, then you feel more confident picking up the phone to discuss particular issues if you need to. In the old days we used to see our hospital colleagues much more, and that was better but now because of all the pressures and targets that doesn’t happen anymore.”

Good progress has been made in linking GP leads with Network Site Specific groups. There is now at least one GP Lead on each of the NSSGs with the majority of the groups having 2 GP Leads on their membership. Anecdotally, several of the NSSGs now recognise the GP Leads as a valuable source of expert Primary Care opinion. Awareness raising via education sessions in relation to site specific issues has also had a positive impact on those who have attended.

**Interpretation**

Education events are now an established part of the NECN work plan and it is hoped that they are sustainable in the long term. Familiarity and credibility of the GP lead is a key factor in encouraging attendance. The merging of cancer and cardiovascular disease related topics into one event seems to work well as GPs feel they are using their time more effectively.

This initiative appears to have succeeded in increasing engagement between primary and secondary care clinicians. Whilst the flow and reach of information into primary care can be quantified, the same cannot be said of its flow in the other direction.

**Development and piloting of a risk stratification tool**
Context and Mechanisms

NECN aimed to pilot a GP risk stratification tool to enable targeted health promotion. As part of this initiative they would support GPs to carry out a risk profile for all patients on their register, as determined by lifestyle, postcode, family history, and co-morbidities.

Intervention characteristics and Outcomes

Following discussions with the Cancer in the Community Steering Group and with NCAT this element was taken out of the project plan.

Provision of cancer symptom information to patients attending for chronic disease management and those attending for Health checks/MOTs

Context and Mechanisms

In 2010/11 NHS Tees received LAEDI funding to pilot the provision of information about cancer symptoms to people attending for CVD annual review. It was anticipated that the evaluation of this pilot would inform its extension to other disease groups such as patients with Chronic Obstructive Pulmonary Disease (COPD) and to other primary care consultations such as health checks/MOTs in the over 45 year olds.

Intervention characteristics and Outcomes

Due to an inability to secure funding to incentivise GPs and provide a project management function on a Network wide basis this initiative has not been rolled out across the Network. However individual primary care organisations and GP practices have been keen to adopt the approach and are at differing stages of development in making the model fit their own local circumstances. NECN is supporting this process by acting as a conduit for information sharing.

Access to Diagnostics

Context and Mechanisms

The NECN planned a series of initiatives to increase access to chest X-ray. These would build on several pilots that had been previously undertaken.

Intervention characteristics and Outcomes

The South of Tyne and Wear NAEDI project enabling direct access to chest x-ray (CXR) from pharmacies work did not evaluate well so it was not pursued. However work has now commenced.
with Northumbria Healthcare Trust to pilot open access for patients to CXR. This project will commence in spring 2013 and is based on piloted similar initiative in the Leeds area. In addition to this NECN is also currently carrying out a mapping of access to diagnostics across the North of England. This is in response to the Department of Health guidance “Direct Access to Diagnostic Tests for Cancer – Best Practice Referral Pathways for General Practitioners.”

Safety netting

Context and Mechanisms

Safety netting has been identified by NAEDI as a key consultation skill, as well as having application to practice procedures. The Network planned to develop standard safety netting/patient review tools, a need that had been identified in service improvement workshops and GP audit discussions.

Intervention Characteristics and Outcomes

Guidance on the principles and practice of safety netting for cancer, produced for NAEDI by the University of Oxford, was placed on the NECN website and a link sent to every practice. However there is no way of knowing how many practices have accessed the link or having accessed it how their practice may have changed as a result.

In addition to providing the link. NECN also included the recommendations of the report in every delegate pack issued at education sessions.

As a result of discussions regarding the importance of safety netting, the Cancer in the Community group have discussed the importance of communication skills within the recommendations and explored the idea of running a communication course of GPs. The outcome is that they are now working with the NECVN to develop a business case to provide generic training in communication skills.

Interpretation

Safety netting and communications skills have been recognised by the Network as being relevant across more disease areas than just cancer, and at more stages of the cancer pathway than just diagnosis. As a result collaborations have been formed with other disease Networks to promote a more generic approach to improvement.

Awareness campaigns

Context and Mechanisms
NECN set itself a challenge at the Accelerated Solutions Workshop of “Finding 1000 people and saving 1000 lives”. The NECN target was set higher than its proportionate share of the NAEDI ‘challenge’ because survival rates in NECN are particularly poor. In fact NECN had the worst 1yr survival data in the country for 2006-2008 and the second worst 5yr survival rates for 2002-2004. The Network did acknowledge that it would not be possible to measure a change in 1yr and 5yr survival rates at the end of the project but they did expect the project to make a significant contribution towards the target set.

The Network also sought to maximise the impact of the national ‘Be Clear on Cancer’ campaign through engagement with practices across the Network and the recruitment of patient advocates to promote awareness.

The NECN and Strategic Health Authority worked with Trusts, Primary Care Organisations and GPs to prepare for the campaigns.

**Intervention characteristics and Outcomes**

A ‘Be Clear on Cancer’ Steering Group was formed as a subgroup of the Cancer in the Community Group to coordinate awareness raising campaigns across NECN.

The importance of primary care being aware of and involved in awareness campaigns was acknowledged by the steering group and a number of actions were taken to try to ensure that engagement, including:

- GP leads filmed short video clips promoting Be Clear on Cancer for a shopping centre and patient recruitment campaign
- Be Clear on Cancer materials were distributed to every practice to support each of the National and Regional campaigns (Bowel, Lung and OG)
- E-bulletins were sent to practice managers to inform them of forthcoming campaign activity
- Community pharmacies signed up to support the Be Clear on Cancer brand. NECN also developed an e-learning toolkit for pharmacists and their staff in relation to how they can help achieve earlier diagnosis in OG cancers.
- Webcasts were available before the two national campaigns
- GP Cancer Leads were briefed in order to cascade knowledge to colleagues

NECN were early adopters of the Be Clear on Cancer brand and have been involved in a number of campaigns both local and national including:
• Race for life partnership events
• Shopping centre, sports sponsorship and patient recruitment campaigns
• Bowel and lung national campaigns
• A Be Clear on Cancer Oesophago-gastric (OG) campaign.

There has been a perceived increase in people presenting with potential cancer symptoms as a result of campaigns both in general practice and also in referrals to secondary care:

“I wouldn’t say I’ve been inundated by people presenting at my clinic as a result of these campaigns but I’ve had a couple of patients who’ve come with significant symptoms requiring further investigation but I suppose the real test is whether these patients actually turn out to have cancer.”

“I am seeing quite a few more people coming to clinic saying they’ve got blood in their poo and they’d like it checking, so yes I think the campaigns are having an impact, my concern is that they might change things in the short term but without longer term funding how are we to ensure that the messages keep getting repeated so that people remember them?”

This perceived increase has been larger in some areas than in others, and the Network is currently trying to quantify this variation. The area that noted one of the biggest peaks in activity is one that has been actively involved in awareness raising for a number of years, and it may be that the public in that area are more receptive to these sorts of messages.

The Network identified a 35.8% increase in referrals for suspected lower GI cancer over the previous year with individual trusts ranging from 7.9% to 69.7%. Data for the local Oesophageal Cancer Awareness Campaign showed a cumulative increase of 23.1% when compared with the same period last year, ranging by trust from 3% to 46.7%. The data from the National Lung Awareness Campaign showed a cumulative increase in referrals over the previous year of 12.1%, ranging from a decrease of 27.2% to an increase of 51.4%,

Conversion rate data is yet to be made available. However the referral data combined with the anecdotal evidence from interviews with the GP leads does seem to indicate that the awareness campaigns seem to be having an effect.

Interpretation

It is difficult to assess the long term outcomes of awareness campaigns in the time period of this evaluation. Anecdotal evidence and the increase in referrals seems to indicate at least a short term
effect for these campaigns. However, such changes in referral activity should be viewed against a rising national trend in urgent cancer referral rates (see Chapter 4) Local ownership of national campaigns and local activity to support the campaigns appears to be key in ensuring the success of a campaign.

Practice profiles and audit

Context and Mechanisms

General Practice Profiles were first released in December 2010 and the GP leads were tasked to ensure that the data contained within them was understood and used in primary care. To facilitate this process GP leads visited selected practices to discuss their data and initially to offer the opportunity to take part in a Cancer Diagnosis Audit. These practice profiles were updated in December 2011 and facilitating their uptake continued to be a GP lead responsibility.

In NECN 5 indicators were used to select practices:

- Percentage of practice population aged 65 plus
- Socioeconomic deprivation
- 2 week wait referral rate
- 2 week wait conversion rate
- Number of emergency presentations with cancer

These criteria were weighted using a scoring system and along with local GP intelligence, the 10% of practices showing the greatest variation from the PCT mean were selected for a visit. After the profiles were refreshed in December 2011 the process was repeated and extended to include 15% of practices. Practice profiles were promoted at education sessions and GP leads have also visited practices who have requested a visit.

In order to support the GP leads and ensure discussions remained focused Practice Profile Guidance and Action Plan documents developed by the Network were made available on the NECN website for GPs to access. The action plan was discussed at all GP lead visits and was also sent to practices requesting their profile (regardless of whether or not a visit had been planned).

GP Cancer Leads, Network staff and PCT staff also gave presentations at locality events, where they highlighted the variation that could be observed from profile data and encouraged practices to reflect on their profiles in relation to that variation.
In 2010 GP leads had been able to provide funding support for the practices that they visited to do the National Primary Care Cancer Audit, as a means of better understanding their current clinical practice. NECN continued this support in 2011/12.

**Intervention characteristics and Outcomes**

Since the profiles were released in 2010 96 practices have received a visit from a GP lead to discuss their profile. This equates to 20% of practices and exceeds the target of 15% set when the profiles were refreshed. This work still continues with new GP Cancer Leads being appointed.

Practice visits have given GP leads the opportunity to develop relationships with practices in their area and to discuss other NAEDI initiatives with primary care colleagues such as:

- Risk assessment tools (RATs) for lung and colorectal cancers
- Education Sessions
- Be Clear on Cancer Campaigns
- Safety Netting Recommendations
- Cancer Awareness Measure (CAM) data

All practices were asked to complete an action plan following review of their profile and to return it to the Network, either directly or via their GP lead. The Network has actually received 54 action plans with a number of others still to be forwarded. In two localities, practices have been encouraged to write action plans for QOF QP though details of this are not yet available. Plans received to date have identified actions such as:

- Contacting patients who have missed screening
- Audit all cancers presenting as emergencies
- Promote cancer awareness at chronic disease management clinics
- Regular practice education meetings.

Whilst all of actions identified within the action plans were appropriate, one GP lead suggested that some practices choose quick wins rather than tackling more fundamental issues:

“Well you know what they’re like, some are more erm motivated than others and sometimes some of them will pick the easier stuff to do like raising awareness within the practice, they think I’ll put some posters up and maybe do a bit of education at a practice meeting, you know, when maybe they ought to be looking at their emergency presentations, all you can do as a lead is
suggest and try to support them, and at least once you’ve got into a practice you can err try to develop that relationship and continue influencing the things, problems they’re going to tackle.”

In NECN’s original proposal they intended to engage a further 24 practices in the Primary Care Audit. Plans were in place to support analysis of this from a Network perspective. This would have meant that in total around 100 (23%) practices would have carried out the audit Following discussions with the GP leads it was decided to use Significant Event Audit (SEA) instead. In total 170 SEAs were received from approximately 92 GPs. After validation 162 audits from 55 practices were included in the analysis. This built upon SEA coordinated by NECN in 2009. In terms of findings 77% of audits identified an avoidable delay, 70% identified lessons learnt, 57% identified changes made. Key messages identified from the audits included; ensuring appropriate follow up and safety netting, beware of ‘red herring’ symptoms, awareness of false negative tests. The Network plans to use high standard SEAs as exemplar to support others who may be less familiar with the audit process.

**Interpretation**

The Network has made good progress in using practice profiles to identify practices of interest, to engage with them and to get them to develop action plans for service improvement. The development of QOF QP in the field of cancer care may prove to be popular with CCGs and should be closely monitored.

**GP Leadership**

**Context and Mechanisms**

GP leadership was seen as pivotal in increasing the number of GPs across NECN who understand their role in improving early diagnosis in cancer. The plan was to appoint a GP Lead for 62 sessions to work very closely with the existing NECN GP Leads and Public Health Leads who were fully engaged with the NAEDI programme.

Key tasks for the Lead GP included:

- Supporting regional and national communication campaigns. In conjunction with national and regional contacts to develop key signs and symptoms checklist for each tumour site for use by GPs.

- In conjunction with GP Locality Leads raise awareness in all practices and wider primary care of the impact of the awareness campaigns

- Providing a steer to the project manager e.g. on developing GP education and awareness programme, local pilots and work in practices.
• Helping to disseminate the findings for the Cancer Awareness Measure regarding reasons for patient delay.

• Facilitating the local roll out of Willie Hamilton Risk Assessment Tool.

• Working with national and regional teams including GPs from other areas of the country to help share and disseminate good practice.

• Working with GP Leads going to Network Site Specific groups to understand variation and use that information to steer local improvement initiatives or education programmes.

• Supporting GPs in their reflective practice using audit, and profiles and consider how audit might be used in GP professional portfolios for appraisal and revalidation purposes.

• Identify potential patient advocates/champions

NECN views sustainability as an important issue and stressed within the 2011/12 proposal that awareness and early diagnosis is core business and this is clearly articulated within the NECN work plan. The LAEDI Steering group was to provide an important mechanism for monitoring the work of the project and planning for the end of the project.

**Intervention characteristics and Outcomes**

The appointment of a lead GP at Network level did not happen, however the existing lead GPs worked very closely with the Cancer in the Community Group, supported by the Network to ensure that the aforementioned responsibilities highlighted for the Network Lead GP role were incorporated to existing work plans.

The Network’s approach to supporting GP leadership can broadly be split into the following interventions:

**GP Lead mapping**

**Recruitment of additional Macmillan funded GP leads**

**GP Lead Away Day**

**Training and Mentoring**

**Network Site Specific Group involvement.**

**GP lead mapping and recruitment of additional Macmillan funded GP leads** – a mapping exercise was undertaken in partnership with Macmillan to provide an understanding of the variation in the GP lead role within the NECN in term of time, funding, alignment to the local CCG, and role expectations.
The mapping showed that there were still gaps in some areas; this has resulted in the Network and Macmillan working with CCGs to recruit to these gaps. There are currently 14 individuals, 13 posts appointed to across the NECN area; this is a significant increase since the start of the project evaluation when there were 7 GPs in these posts. All of the GP leads say they are linked with their CCG, however these links vary significantly, with 2 having very formal links as they are also CCG Board Members, 7 post holders report either formally or informally to the CCG Board or a Board Member, 4 are still working through alignment structures.

**GP Lead Away Day** – the Away Day provided the established GP leads with the opportunity to share experiences with newly appointed post holders. As a result of discussions held at that event and information received as part of the mapping exercise the Network identified skills required for the role and the also developed a set of “top tips” for GP leads. It also identified training required to deliver their current work streams.

The event was viewed as beneficial by a range of participants:

“It was good to meet some of the new leads and put faces to names, also to provide the opportunity to share experiences and concerns, I mean when I started no one told me how to do it – it was just a case of you’re the lead now get on with it, I would have really benefited from all this discussion and debate.”

*I think the Away Day was really useful from a Network perspective because it gave us the opportunity to test out things like what skills the role needed and for us to explore how we would provide the most effective support for that group of staff.”*

Following the Away Day a report was produced which identified clear actions for different parties; the development of action learning sets facilitate by the Regional Macmillan GP Lead, Macmillan to open up their training to non Macmillan funded GP leads and training on RAT and profiles to be delivered by the Network. All of these actions have subsequently been delivered.

Macmillan are carrying out a follow up survey so see whether training needs of GP Leads have been met including whether it would still be useful to have action learning sets.

**Training and Mentoring** – as a result of requests made at the Away Day the Network supported and facilitated a training session led by 2 experienced GP leads on Cancer Practice Profiles. Webcasts for Lung and Colorectal RATs have been filmed, publicised and made available via the NECN website. In
addition all GP Leads have been offered the opportunity to attend Leadership/Commissioning training organised by Macmillan. The Network is currently unable to confirm how many people accessed the webcasts or how many of the GP leads attended the Macmillan organised training.

Network Site Specific Group involvement - The NECN Site Specific Groups are the primary source of clinical expertise to the Network board. Through the National Awareness and Early Diagnosis Initiative (NAEDI) and the NECN “Finding 1000 People, Saving 1000 Lives” initiative it has been recognised that awareness and early diagnosis of cancer is key to improving outcomes. The NSSGs have recognised the importance of this work and linking with primary care colleagues. Work is ongoing to ensure that each NSSG has at least one GP cancer lead as part of its membership.

A range of initiatives evidence the shift in focus to awareness and early diagnosis including; awareness raising campaign, education sessions for GPs, agreed wording on chest x-rays reports to remind GPs a negative result does not exclude cancer (to be piloted in one locality) and work to increase screening rates.

**Interpretation**

Significant work has been done to support the GP leads and encourage experienced GP leads to support their newly appointed colleagues, the systems in place around buddying and mentoring seem to work for both experienced and newly appointed post holders, it provides the opportunity for experienced GP leads to reflect on their way of doing things and provides them with a sounding board regarding how to further develop things. The new appointees have someone who they can discuss issues with and learn from their experiences. In addition the work with Macmillan to ensure that non Macmillan funded GP leads can access education and support has the unintended consequence of ensuring a degree of consistency (important from a Network perspective) across lead roles.

**Additional Network support to the project**

**Context and Mechanisms**

One of the original project aims was to appoint a Project Manager for the 2011/12 work.

**Intervention characteristics and Outcomes**

The Network did not appoint a Project Manager; however they did identify a Network member of staff from the existing team who did take on the responsibility for the project management of this
work stream alongside some of her other responsibilities. This had the benefits that she was able to “hit the ground running” and already had links within some of the PCOs and NSSGs, the Network also appointed an administrative assistant to support the project and to free the person managing the project on top of some elements of her previous work load from more routine tasks.

6.4 North Trent Cancer Network (NTCN)

The North Trent Cancer Network was established in 1997. It covers a population of 1.8 million across South Yorkshire, North Derbyshire and Bassetlaw. NTCN comprises of the following PCT areas; Sheffield, Rotherham, Barnsley, Doncaster, Bassetlaw and Derbyshire County.

The Network works in partnership with 6 acute providers providing a range of secondary and tertiary care. The Network also works closely with 2 SHAs and 6 PCTs as well as a large number of other statutory and voluntary organisations.

The Network Director is responsible for leading the collaborative cancer commissioning process and overseeing the implementation of the NHS Cancer Reform Strategy. The commissioner led Cancer Board is responsible for ensuring equity of access to cancer services. As a guardian of quality the Board aims to ensure demonstrable good clinical quality outcomes regardless of where an individual lives.

The NTCN Inequalities Strategy highlights NTCN as an outlier for one year survival for Leukaemia, Stomach, Colorectal, Pancreatic, Lung, Breast and Prostate cancers.

North Trent has high levels of cancer incidence and mortality and despite having structures and services that rate highly in terms of compliance with national standards. NTCN’s poor outcomes are attributed to high levels of late presentation and co morbidity in its communities, many of whom have high levels of socioeconomic deprivation.

6.4.1 Background and Organisational Context

The Network has an agreed “Inequalities Strategy” which was finalised in 2009 and covers 2009-2012 with an associated work plan. The aim of the strategy and work plan is to improve one year and five year survival and reduce mortality rates.

The Network recognised the need to work closely with Primary Care Cancer Leads in implementing the Inequalities Strategy and Work Plan.
NCAT had provided funding in 2010/11 to enable GP leads for cancer to engage practices in the cancer awareness and early diagnosis agenda, building on the release of practice profiles.

The GP Leadership initiative builds upon this, providing a mentor relationship to the practice and a contact point for discussing improvements and sharing best practice.

6.4.2 Project Aims

- To raise the profile of the metrics (presented in the practice profiles) and make practices aware of the information in relation to cancer and their practice.
- To introduce the practices to a mentor to support them in terms of personal development in relation to cancer.
- To provide tools and techniques to raise awareness and improve early detection of cancer symptoms.
- To review access into Primary Care and enable patient’s ease of access to a GP to discuss their concerns around signs and symptoms in relation to cancer.
- To encourage the development of a safety netting system for non-participants of bowel screening, flagging their records to enable opportunistic discussion in the surgery.

6.4.3 Description of key project elements and progress made:

GP Leadership, RAT’s and audits

Context and Mechanisms

This project was a continuation of the national GP Leadership initiative funded by NCAT and DH during 2010/11.

The previous profile work had focused on a target number of practices. The aim of this phase of work was to develop additional capacity so that the Network could expand the number of practices seen on a one to one basis and also engage with groups of practices via small group events. The GP cancer audit has also been offered to practices that received one to one visits. NTCN also planned to repeat the GP audit in those practices had previously used it to demonstrate changes in routes to diagnosis and stage at diagnosis.

The Primary Care Leads Group met on a regular basis and were tasked with reviewing existing work undertaken within their locality in relation to awareness and early detection. Possible metrics and
approaches to monitoring and evaluating change were also to be identified in conjunction with the Information Analyst.

**Intervention characteristics and outcomes**

The well-established Inequalities Steering Group, which consists of Public Health and GP leads as well as network staff, has been responsible for defining the measures and monitoring the impact of the NAEDI. A sub group (Primary Care Project Team) is meets regularly, although there is some concern that other GPs may have become disengaged from this work:

“Getting the project team together is a lot easier than getting all the GP leads together. They’re just not as engaged with the Network.”

“I think with all due respect to our project team, it’s a tight knit little clique really and they’ve all got different strengths . . . I would possibly question whether the Network has got to take some responsibility about how we’re engaging with disenfranchised GPs. One lead is disconnected and the other two, maybe we should be involving them in a different way and actually giving them project work to do.”

The GP Leads have been active in carrying out profile visits. 30 practices were initially identified, of which 25 were visited but only 4 action plans were developed. In the second phase an additional 50 practices were identified, 39 of which were visited. Of these, 14 have produced action plans which have been signed off and a further 25 have drafted action plans. The network has actively followed practices who have been visited to ask for action plans. At the time of this evaluation they were considering how best to follow up whether the planned actions had actually been completed.

“Yes we get action plans back following a visit, and if not someone from the Network follows it up, I don’t think we’ve necessarily done any work to look at the quality of the proposed actions but I suppose they seemed relevant at the visit, and I certainly haven’t followed up whether they actually implemented them, but that a capacity issue, I simply don’t have the time.”
NTCN is the network of the four case studies that routinely has a network member of staff visiting practices alongside the GP Leads. This is the Network Data Analyst, who attends to discuss and follow up data related issues. This seems to have raised the profile of the network as people like to be able to put a name to a face but has had the unintended consequence of creating additional work for the network as queries get raised because of her attendance, many of which require subsequent action.

“It’s really helpful having X there as she can support explanations about the data and follow up any data specific queries practices may have.”

“Having X come when she can has been quite helpful as she supports the visit in a range of ways, not only from a data point of view but she will also become an ongoing point of contact with the Network which is always useful.”

17 audits have been returned to the Network with a further 9 more being cited as part of the action plans.

The Network had initially planned to collate the Significant Event Audits into a handbook of case studies to be shared with GPs, this has not yet happened.

All GPs have been sent RAT mouse mats or desk top easels, though the Network has no way of knowing how many GPs are using the tools or for what purpose.

**Interpretation**

The Network has recognised that there is no one size fits all to GP engagement and that variation and appropriateness is important to delivering key messages.

NTCN’s success with practice action planning may be related to the input of the network’s data analyst present, who has provided support in drafting the plan. This supported approach could be a means to overcome uncertainties about how to approach the planning process, and is worthy of further development.

The GP Leads who provide project leadership as part of their roles are currently funded for their project management work until March 2013; it is unclear what will happen after that. Undoubtedly these individuals have been effective from a project perspective but the network will need to consider how to sustain engagement with the wider GP population.
Education and Communication

Context and Mechanisms

Educational events were planned as a forum to spread the NAEDI hypothesis across a greater number of GPs within Primary Care. The Primary Care Audit was to be offered via educational events and individual practice visits. GPs encouraged to use SEA as a tool for reflective learning which could be included in their professional portfolios for appraisal and also be used as part of their Quality and Outcomes Framework activity.

The educational events were also an opportunity to develop relationships between primary and secondary care.. The NSSG Chairs or representatives were invited to share information in relation to diagnosis and early detection for their cancer site and to talk about how GPs could contribute.

The centrality of CCGs to the commissioning process has made the development of a dialogue on cancer a priority for Networks. GP Lead /Public Health Lead and Network Lead visits to CCG meetings were arranged to raise awareness of the network, promote the GP Lead role and the awareness and early diagnosis agenda. The Cancer Director and the Public Health Lead also intended to meet with CCG Leads to develop key relationships to enable primary care initiatives to be taken forward in each locality.

Intervention characteristics and outcomes

A plan has been developed for communicating key messages regarding the inequalities programme, to ensure that primary and secondary care are informed of the NAEDI work and to ensure that Network messages are delivered in a clear and consistent way. GP Lead /Public Health Lead and Network Lead visits to CCG meetings appear to have been effective in that each CCG now has an identified GP Cancer Lead.

Attendance at education events in general has been disappointing and as a result not perceived by GP leads to be good use of time, though when attended people felt that they were useful:
“That’s one area where we have been less successful, I know GPs have a lot on their plates and they’re really busy but really attendance was poor, so we’ve sort of put doing more events on the backburner in favour of other ways such as the resource packs and newsletter as ways of trying to get the messages across.”

“I think the Network events that were held were good but it was because they were fitted in an already developed structure.”

An educational resource pack for primary care has been developed to support GPs to make appropriate referral of patients with suspected cancer; this has been sent to all GP practices. All the materials contained within the packs are available to download from the NTCN website. Packs include information on the GP Leadership programme, the cancer awareness campaigns and referral tools. There has been positive feedback about the content of the packs but there is also anecdotal evidence that not everyone has seen one.

“We’ve had some positive feedback about the quality of information and how accessible it is.”

“I mentioned it at a practice visit and they just looked blank, it turns out they had never seen it and it was in the practice library or something, but when they found it and looked at it they thought it was really useful.”

**Interpretation**

The problem of getting practices to use resources that are provided for them and to access educational events is a major and ongoing challenge for this network. They have set store by giving clear, consistent messages in a variety of ways but there is doubt as to how well they are getting through.

**Access into Primary Care**

**Context and Mechanisms**

Anecdotal evidence prior to the 2011/12 work suggested that accessing a GP can be difficult for patients and a barrier to presenting early,

A number of patients have expressed concerns about ease of access to their GP and problems with practice appointment systems. If patients struggle to get into primary care then their cancer diagnosis may be delayed or occur as a result of an emergency presentation. The aim of this
initiative was to review three practices systems in five practices and examine alternative ways of ensuring patients can be seen or are able to speak to a GP quickly.

Practice appointment systems were to be reviewed through process mapping, while discovery interviews with patients would elicit the patient perspective. Changes instituted as a result of this process would be monitored and evaluated. The intended outcome was improved access to a GP with patients having their symptoms being assessed more promptly.

The key metrics/outcomes to be reviewed and monitored were:-

- Increased two week wait referrals at practice level
- Routes to diagnosis at practice level
- Access to diagnostics
- Screening uptake at practice level
- Increasing one year survival
- 3rd available appointment
- Pre and post patient survey

The Network intended to disseminate the findings of this initiative once it was completed in order to encourage other practices to adapt their appointment systems

**Intervention characteristics and outcomes**

Five practices ultimately participated in the project. Data on capacity and demand, read codes, public and patient satisfaction were all collated and analysed. However it was recognised that much of the data was flawed and there were significant problems with mis-coding of READ codes.

Anecdotally, practices participating in the project have improved access to patients and the Network has developed a Top Ten Tips To Improving Access Guide.

**Interpretation**

This was an ambitious project several perspectives and illustrates the challenges of incorporating robust evaluation into service developments. Not surprisingly, one of the reasons an evaluation was not completed was due the scope of the project changing during the implementation phase.

**Awareness Campaigns**

**Context and Mechanisms**
The network aimed to developing community models to sustain awareness initiatives with the public and to deliver the National Bowel Cancer Campaign which was scheduled for early 2012.

Previously, Cancer Health Improvement practitioners had been employed to raise awareness of cancer in communities. There was evidence for the effectiveness of this approach a model for sustaining this impact using community workers was to be tested.

“*Our approach is very much modelled on a health improvement, community engagement (model), targeting, so we had people going out to lunch clubs, nursing homes etc . . .”*

Engagement with both secondary and primary care was thought to be key in taking this initiative forward at a local level. Educational events would be used to raise awareness of campaigns and share best practice across the Network within both Primary and Secondary Care.

A Cancer Awareness Measure survey (CAM) was planned pre-campaign and post campaign (one year later) to gauge the effectiveness of the campaigns.

Primary Care Leads would be used to disseminate information regarding the national campaign.

A workshop would bring primary and secondary care clinicians together to discuss the bowel campaign and its impact at a local level. Clinicians were to be made aware of the possible impact of increased GP appointments, diagnostics, screening programme attendees, 2 week wait referrals, outpatient appointments and subsequent treatment.

Through these initiatives the Network envisaged that awareness and early detection initiatives would start to become embedded in primary care culture. The Network also intended to work with work with PCT Commissioners to ensure that the necessary service capacity to support these initiatives will be commissioned.

**Intervention characteristics and outcomes**

The Network piloted a breast awareness campaign targeting women over 70. The campaign used a combination of public awareness, community engagement and health improvement interventions to raise public awareness and promote earlier diagnosis. The campaign ran for 5 weeks and was subsequently evaluated. The evaluation showed an increase in women attending for screening.

“*and we know for example that in . . . . . that there has been an increase by 100%, it’s gone from 10 to 20 women opting into the screening programme after the age of 70.”*
A regional pilot for the lung campaign was carried out in October 2011 for 3 weeks, this was subsequently rolled out on a national basis in May and June 2012. Anecdotally GPs feel that the campaigns increased the number of patients coming to see them:

“Oh I’m definitely seeing some patients who would not have come if they hadn’t seen the campaign, they actually tell you that’s what prompted them to come, whether that translates to earlier stage of diagnosis, I don’t know, we’ll just have to wait and see.”

The national bowel cancer campaign was rolled out in early 2012. The Network worked closely with primary care leads and localities to communicate the key messages of the campaign and tools to assist in appropriate referrals.

It also worked closed with both primary and secondary care to prepare them for potential increase in consultations and referrals as a result of these campaigns.

Interpretation

There is a local implementation plan that underpins national campaigns that includes community development methods as well as the preparation of health care service providers in primary and secondary care.
7 CMO Configuration

Realistic evaluation allows the relationship between context, mechanisms and outcomes (both intended and unintended) to be explored and a generalised model to be developed. Figure 52 shows the CMO configuration developed from the findings of the evaluation.

Figure 52 CMO configuration
8 Discussion

The NAEDI / Cancer Networks Supporting Primary Care programme of work in 2011/12 constituted a complex package of initiatives implemented at Network level throughout England. Networks had a considerable degree of flexibility in what actions they chose to prioritise and the way in which they implemented them. This reflected the individual circumstances of networks and their populations, and the stage of development of their engagement with primary care. In undertaking this evaluation, we recognised the need to capture the inter-relationship of these different contexts and mechanisms, in order to understand the factors that contribute to successful and effective engagement.

From an analysis of the proposals submitted by Networks at the outset of the programme, we constructed a framework of activities. Appendix 3 shows a table of selected examples illustrating the range of actions undertaken by individual networks.

In most networks, projects were implemented in the way envisaged in the logic model, with input from GP leads, supported by the networks and NCIN’s Practice Profiles, encouraging practices to undertake activities that would lead to practice change and improvements in outcomes. In the timeframe of this evaluation, however, some of the most important outcomes identified in the logic model could not be assessed and we have therefore utilised surrogate markers that relate to urgent referral for suspected cancer.

We were able for the first time to quantify the engagement of general practices with NAEDI initiatives and have shown that by March 2012 over half of all practices in England had some degree of involvement. Furthermore we have been able to describe the association between some of the NAEDI initiatives and trends in referral for suspected cancer. In doing these analyses we have focussed on those initiatives or actions that could plausibly be expected to change referral behaviour, namely the use of risk assessment tools, clinical audit and action planning in response to practice profile data. The context of these analyses is important. Between 2010 and 2012 urgent referrals for suspected cancer increased by 17%. The related changes in conversion and detection rates were as expected, and have been previously described elsewhere (Meechan et al. BJGP 2012). Contemporaneous NAEDI initiatives could have contributed to this increase. Specifically the national awareness campaigns for lung and bowel cancer will have had some impact. There was a 34% increase in urgent referrals for suspected colorectal cancer from the baseline period, but a 16% increase for suspected lung cancer. Nevertheless, it is unlikely that these site-specific increases could fully explain the overall increase observed and we demonstrated a significant change in referral
rates for practices that engaged in any intervention. We have also shown that among practices participating in NAEDI initiatives there was a reduction in the degree of variation in their referral practice.

Using annual incidence rates for England of 265000 for all cancers (excluding non-melanoma skin cancers), 33600 for colorectal cancer and 33000 for lung, it is possible to estimate how many more patients would have been referred by the 2WW route (rather than other routes such as an emergency or routine referral) if all practices had implemented the intervention in question. For example, approximately 500 more patients would have been 2WW colorectal referrals, rather than by other routes, if every practice in England had taken up the risk assessment tool for colorectal cancer; if every practice had done clinical audit and significant event analysis, approximately an additional 3440 patients would have referred by the 2WW pathway rather than by other routes.

At the same time, what is not apparent is any differential improvement in the relationship between conversion and detection rates. Good quality referral practice can be defined as a combination of high conversion and high detection rates. Practice engaged in any of the initiatives being studied were no more likely to increase both parameters than those that did not take them up. The interpretation of this is that these initiatives have increased referral rates but not quality of referral practice. It may be that further work needs to be done to improve case selection. However, it may be that we are approaching a ceiling to the accuracy of case selection for suspected cancer referral, which reflects the low predictive value of many cancer symptoms, and that the gains to be made in earlier detection are in increasing urgent referrals per se.

Successful interventions are characterized by a number of factors that are influenced by the context in which they are used.

Firstly the intervention must be relevant to context in which it is implemented. This was evident in the way different Networks responded to awareness raising campaigns. In some Networks the national campaign was not contentious, in others it was felt not to reflect the needs of the community and locally relevant campaigns were designed. Relevance is also key when targeting initiatives at GPs. Where GPs felt that the initiative was relevant to them and provided information that they could see would be useful to their practice, it was more likely to prove successful.

A second key context was the structure of the network and its relationship with primary care. It was sometimes felt that GPs did not appreciate or fully understand the role of the Network or how it was able to support them. In some cases this was due to the lack of communication between Networks
and those in primary care. Conversely, there were reports of GPs being inundated with information on a range of diseases and issues, resulting in information overload.

The degree of continuity in Network structures and the pace of change in their personnel and working practices were important contextual factors. The changes occurring in PCTs and the emergence of CCGs were also relevant in this respect. Combined with the short term nature of much of the funding, there was not always time to always plan, implement and embed changes into the working practice of GPs. Some networks appeared able to incorporate the 2011/12 programme funding into their wider plans such that there was a greater sense of continuity. For these there appeared more time to plan, pilot and roll out initiatives and this was contributed to the success of the initiative.

Time is an important factor for GPs, they are reluctant to allocate it to activities unless they are very clear about the benefit. This was a particular issue for educational activities. Networks generally made great efforts to ensure that the content of events were relevant, organised in locally sensitive formats and presented by credible, locally known speakers. A large number of Networks also sought CPD accreditation for their events.

Local evaluation of initiatives was important to the Networks; they wanted to know the impact of developments in their local area. However, only a few managed to effectively evaluate their own initiatives. The problems encountered included; changes in the nature of the action during its implementation phase; multiple actions addressing the same issue, making it difficult isolate the impact of each; overoptimistic expectations about access to data, particularly when it was owned by other organisations.

The overarching context that determined whether initiatives were taken up by practices was leadership. This was both in terms of leadership from the individual GP leads and leadership from the Network. Where there were GP Leads acting as champions for particular initiatives, the Networks reported generally more encouraging responses from the GP community. GPs seem to respond better to peers promoting an initiative, whether they come from primary or secondary care, than to non-medical colleagues. GPs valued practical examples of how something could change their practice for the better. GP Leads were valued by their peers especially in facilitating dialogue with secondary care colleagues and in considering how to respond to the information contained in practice profiles.

One of the defining features of general practice in the UK is the comparative clinical autonomy of its clinicians. Primary care is characterised by a number of small groups of clinicians working
independently, although recent NHS changes, such as practice based commissioning and now clinical commissioning groups, have encouraged practices into more interdependent ways of working. Primary care does not have the same organisational structure as is found in secondary care. Implementing change in these more flexible, decentralised organisations where there is no clear management structure presents challenges that may not be found in other organisations. Who manages this change and how it is introduced is key to how change is accepted by professionals who may feel their professional autonomy is under threat. The concept of ‘soft coercion’, where leadership is provided by local professionals rather than a general manager, is thought to be one method of engaging GPs. This comes from the concept of ‘Soft bureaucracies’ described by Courpasson and Jermier, where the organisation is characterised by a largely autonomous professional group, such as GPs, who are part of a structure which has a rigid framework and provides governance.

In terms of GP leadership within Networks, models varied widely. In some, Network Lead GPs led and supported other GP leads whose work was focused on their CCG area. In others, GP Leads working within CCG areas got their support from Network managers and in some cases GP Leads jointly held a CCG responsibility alongside Network project management responsibilities. It was not possible to determine if one model is more effective than another, however it was clear that GP Leads valued clear guidance and support from the Network regarding the expectations of their role. They also valued efforts by their Network to ensure that they were working in a consistent manner. Newer GP Leads also valued the support of more experienced colleagues in Networks where this has been available

Training and development of GP Leads has been variable. Some of this may be due to the fact that they come into the role with different levels of experience and skill sets. Some GPs have been offered leadership training, others have not. Training and development made available to Macmillan funded GPs has been opened up to non-Macmillan GPs in some areas, and this has been valued. Encouraging changes in practice behaviour is central to the GP Lead role and it is essential that GP Leads have good communication and facilitation skills in order to support these changes. However there does not seem to be a consistent approach to either assessing these skills or providing training to address the development of such skills across Networks.

This was a complex evaluation of a complex programme of activities in primary care. Among its strengths are that different types and sources of data have been utilised, allowing some triangulation of findings from the telephone interviews, case study interviews, documentary analysis and quantitative analysis of cancer waiting time data against practice activity.
27 of the 28 Cancer Networks in England participated in this evaluation via the telephone interviews and case studies. Data was provided on 2 occasions by most Networks, which allowed sense checking of the data and exploration of any apparent anomalies.

A wide range of professionals participated in the evaluation allowing us to triangulate from a range of perspectives. Respondents appeared to be honest and open when speaking to the research team.

Because of the complexity of interventions and the tight timescales for evaluation a number of interventions do not have tangible outcomes at this stage, though this may be possible in time. Thus, while the expected short term outcomes identified in the logic model have been achieved, the longer term outcomes remain unknown.

For the quantitative analysis, we were unable to validate reported practice activity, nor was it possible to ascertain the duration or intensity of each activity reported by the practices.
9 References


David Meechan, Carolynn Gildea, Louise Hollingworth, Mike Richards, Di Riley, Greg Rubin. Variation in use of the two week referral pathway for suspected cancer: cross-sectional analysis. BJGP 2012; 62: e590-e597
10 Glossary

2WW Two Week Wait

CAM Cancer awareness measure

CCG Clinical Commissioning Group

CCT Cancer Commissioning Team

CME Continuing Medical Education

CMO Context Mechanism Outcome

CPD Continuing Professional Development

CRUK Cancer Research UK

CSCCN Central South Coast Cancer Network

CSU Commissioning Support Unit

CVD Cardiovascular Disease

CXR Chest x-ray

GP General Practitioner

HINST Health Inequalities National Support Team

LAEDI Local Awareness and Early Detection Initiative

LMC Local Medical Committee

MAU Medical Admissions Unit

MDT Multidisciplinary Team

NAEDI National Awareness and Early Detection Initiative

NCAT National Cancer Action Team

NCIN National Cancer Intelligence Network

NCLCN North Central London Cancer Network
<table>
<thead>
<tr>
<th>Acronym</th>
<th>Abbreviation</th>
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<tr>
<td>NCL&amp;WECCN</td>
<td>North Central London and West Essex Cancer Commissioning Network</td>
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<tr>
<td>NECN</td>
<td>North of England Cancer Network</td>
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<td>NTCN</td>
<td>North Trent Cancer Network</td>
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<td>NSSG</td>
<td>Network site specific group</td>
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<td>Quality and Outcomes Framework</td>
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<td>Significant Event Audit</td>
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<td>Strategic Health Authority</td>
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<tr>
<td>SHIP</td>
<td>Southampton, Hampshire, Isle of Wight and Portsmouth cluster</td>
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Appendix 1 – Summary of Network Evaluations

A small number of local evaluations were agreed between Cancer Networks and NCAT, where they were likely to add insights into the overall initiative that would be complementary to the national evaluation. The following are reports that have been supplied to us.

1. **Interviews with Primary Care Teams in Lancashire and South Cumbria Cancer Network**

   **Aim:** to explore facilitators and barriers to the implementation of NAEDI encountered by GP and other primary care team staff within Lancashire and South Cumbria Cancer Network.

   **Method:** qualitative exploratory study using individual and group based interviews.

   **Results:** Six practices participated between September and October 2012. Three had not been high engagers with Network initiatives. They were in urban and rural areas. Five focus groups were undertaken and 4 individual interviews. Participants included GP (n=9), receptionists (n=7), nurses (n=6), managers (n=6), secretaries (n=5), health care assistants (n=3), others (n=3). Primary care teams were mainly supportive of an emphasis on early presentation, referral and detection. Findings are preliminary but suggest the following issues with examples:

   **Changes in primary care:** Primary care teams highlighted how changes in primary care may impact on early presentation, e.g. more emphasis on long-term conditions; lack of continuity of care; workload and time constraints; appointment systems. Developing closer relationships with the community and other health professionals and networks working within the community, could support early presentation.

   **Inter-relationships with secondary care:** Concerns were expressed about changing referral pathways and, although most felt the two week waiting system worked well, concerns were expressed about patient delays after being initially assessed and about paucity of information back to primary care. Lack of local secondary care services was seen as a problem for some patients because of transportation.

   **Extended role of other practice team members:** raising awareness among staff was generally welcomed. Some felt that reception staff could be health advisors and signpost patients, but concerns were expressed about administrative staff working beyond their expertise/capabilities and about potential litigation. The extended role of practice nurses/nurse practitioners, particularly when working with patients with long-term conditions, was highlighted. Health checks were opportunities to give advice.
Information overload: Practices are inundated with information on guidance, initiatives and tools from number of sources and on a number of conditions. Information needs to be embedded in practice systems and make their life easier. It needs to be supported by education/skill development. The nature of how practices handle patient risk is not always understood and not reflected in guidance.

Impact of cancer initiatives: all were aware of the campaigns; most had seen a rise in consultations. The impact of campaigns on primary care workload had not been adequately addressed. Safety netting was considered standard practice in primary care. There was variable knowledge about and use of different initiatives. Practices were not particularly familiar with the role of the cancer network although some had attended courses.

Next steps: The findings of a more detailed analysis will be available in the New Year and will be discussed with LSSCN groups to develop recommendations.
2. Evaluation of significant event reports for emergency cancer presentation: NE Yorkshire and North Lincolnshire

A brief summary of the approach/initiative

GPs submitted Significant Event Audits (SEAs) of new cases of patients who were diagnosed with cancer during an emergency presentation. These were then analysed using a systematic qualitative methodology.

Background/context

Most cancers diagnosed in the UK present symptomatically to a general practitioner. However, the pathway to diagnosis in primary care is complex, can vary for different cancer and population groups, and is currently poorly understood. We know that patients who are diagnosed during an emergency presentation have particularly poor outcomes. North East Yorkshire and Humber Clinical Alliance (Cancer) therefore commissioned an evaluation of GP Significant Event Audits related to such patients.

The aim of the initiative

To gain insights into the events surrounding diagnosis and the diagnostic pathway for patients who were diagnosed during an emergency presentation.

The actions taken to get it off the ground

All 175 general practices in the NEYHCA (Cancer) area were asked to take part. Practices were provided with an electronic template for documenting their SEAs; the template also requested information to characterise the practice. Completed SEA reports were returned to the NEYHCA (Cancer) Team, who after checking for quality and ensuring that no identifiable data were included, forwarded anonymised versions to Eident Research for analysis.

Costs involved – money and time resources

Practices were paid £100 per audit received, so the cost of conducting the project, including the analysis was £11,600. In addition, the project consumed an estimated 10 hours of GP lead time, 10 hours of Service Improvement Lead time and 30 hours of project manager time.
Progress and outcomes as a result of the initiative

We received 39 cases suitable for analysis. Analysis has just been completed (see conclusions and recommendations), and we will shortly be disseminating the results to the participating practices and identifying actions for the Clinical Alliance.

What would you have done differently?

Some practices were unclear that we were expecting one SEA per practice and so submitted several. We would make this clearer in the documentation.

Conclusions and recommendations

FINDINGS – Cases

- Date of diagnosis ranged from 2008 to 2012, with more than two-thirds (69%) diagnosed in 2011.
- More than half of the patients were male, and average age at diagnosis was 66 (SD 17.2).
- A range of cancer sites were included, with the most common being lung (28%), colorectal cancers (23%), brain and CNS (13%), haematological (10%) and upper GI (10%).
- Less than half of all patients were reported as being alive at the time of SEA completion. Of those patients who died, median survival time was 57 days (1-246 days).

FINDINGS – Presentation

In the vast majority of cases, these patients had contact with their practice in the year before diagnosis, and most in the period immediately prior to admission.

- In 16 of the 39 cases, the emergency admission had been arranged by their practice.
- In 15 cases, the practice had been directly involved in managing the illness leading up to the emergency presentation:
  - Four were subsequently referred as emergencies by OOH,
  - Seven presented to A&E,
  - Four cases where it was unclear whether admission was arranged by the GP or OOH, or whether the patient had self-referred.
- In five cases, the practice been involved in the care of the patient in the year prior to diagnosis.
- In only three cases could we establish that there had been no input from primary care in the year prior to diagnosis.
Review of cases where there had been protracted contact with primary care, in the main demonstrated their complexity. As has been found in previous cancer SEA syntheses, patients presenting with symptoms which are suggestive of serious illness, but not necessarily of a particular cancer, seem to have longer pathways to diagnosis.

**FINDINGS – learning points**

Reflection by practices identified learning points in five main areas:

- Presentation and diagnosis
- Consultation activity and safety-netting
- Communication factors
- Co-existing patient factors
- Use of referral guidelines

**RECOMMENDATIONS**

- These findings may present opportunities for building in lessons from these accounts into educational sessions, perhaps around use of guidelines, reflective practice and local pathways.
- Service: Perhaps some opportunities for some new thinking around the speedy investigation of symptoms such as weight loss and anaemia in the elderly.
Appendix 2 – Ethics approval

Dr Jennifer Howse
School of Medicine and Health
The Wolfson Research Institute
Durham University Queen’s Campus
Stockton-on-Tees
TS17 6BH
United Kingdom

21st December 2011

Dear Jennifer,

Re: Ethics Application ESC2/2011/23
Evaluation of NAEDI – Cancer Networks Supporting Primary Care

Thank you for sending your revisions to the above application to the School of Medicine and Health ethics sub-committee.

I am satisfied that all of the changes requested by the SMH ethics sub-committee at the meeting have been made. I can therefore confirm Durham University ethical approval for you to conduct this project.

Please note that as custodian of the data generated for this study you will be responsible for ensuring it is maintained and destroyed as outlined in this proposal and in keeping with the Data Protection Act.

Please do not hesitate to contact me should you have any questions. Good luck, I hope that the project goes well.

With best wishes

Rebecca Maier
## Appendix 3 – Examples of initiatives from different Networks

<table>
<thead>
<tr>
<th>Theme</th>
<th>Example</th>
<th>Network</th>
</tr>
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<tbody>
<tr>
<td><strong>Awareness</strong></td>
<td>Awareness raising of Breast Cancer in over 75, using flu clinics</td>
<td>South East London</td>
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<tr>
<td></td>
<td>Working with the Gypsy and traveller communities to raise cancer awareness and provide health checks and smoking cessation</td>
<td>Dorset</td>
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<td>Local campaigns, visiting schools and producing videos for waiting rooms</td>
<td>Arden</td>
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<tr>
<td><strong>Education</strong></td>
<td>Skin cancer learning though Doctors.net</td>
<td>Peninsula</td>
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<td></td>
<td>Targeting education events to registrars</td>
<td>Pan Birmingham</td>
</tr>
<tr>
<td><strong>Other staff awareness and education</strong></td>
<td>‘Practice nurse project’ allowing patients to discuss symptoms with practice nurse</td>
<td>Greater Midlands</td>
</tr>
<tr>
<td></td>
<td>E-learning for receptionists</td>
<td></td>
</tr>
<tr>
<td>Profiles and Practice visits</td>
<td>South East London</td>
<td></td>
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<tr>
<td>-----------------------------</td>
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<td></td>
</tr>
<tr>
<td>A resource pack produced to take GPs though possible actions, starting with the profile. Used in visits and provides tools for GPs to use afterwards</td>
<td>Anglia</td>
<td></td>
</tr>
<tr>
<td>Visits to practices by GP and public health consultants, taking an educational tool to leave with practice</td>
<td>Avon, Somerset and Wiltshire</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Audit</th>
<th>Merseyside and Cheshire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Using the audits for learning and feedback encourages participation</td>
<td>Pan Birmingham</td>
</tr>
<tr>
<td>Targeting audit at registrars</td>
<td>Mount Vernon</td>
</tr>
<tr>
<td>Head and neck audit to gain feedback on the pathways</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>RAT</th>
<th>North West London</th>
</tr>
</thead>
<tbody>
<tr>
<td>RAT distributed and feedback was received that it was used infrequently and so people forgot how to use it. Short video was made to explain use of RAT</td>
<td></td>
</tr>
<tr>
<td>Category</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Communication</td>
<td>Videos used to communicate information online. Newsletters being produced and sent out to GPs</td>
</tr>
<tr>
<td></td>
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<tr>
<td>Pathway</td>
<td>Skin cancer referral feedback being improved. Including a photograph of lesion and allows the consultants letter to be linked with initial lesion that generated the referral. Allows a practice specific learning tool to be built up</td>
</tr>
<tr>
<td></td>
<td>Direct access to chest x-ray service introduced in conjunction with awareness campaign</td>
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<td></td>
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<tr>
<td>Safety netting</td>
<td>Electronic template for symptom screening being developed in a number of practices. Designed to be completed while waiting so can be used in consultation</td>
</tr>
<tr>
<td>Leadership</td>
<td>Sending GP leads on leadership training in conjunction with</td>
</tr>
<tr>
<td>primary care colleagues</td>
<td>West Essex</td>
</tr>
<tr>
<td>-------------------------</td>
<td>-----------</td>
</tr>
<tr>
<td>Arranging “Buddying” by experienced GP leads for newly appointed colleagues</td>
<td>North of England</td>
</tr>
</tbody>
</table>