



Public Health  
England



Department  
of Health

# **Evaluation of the Be Clear on Cancer ovarian cancer awareness campaign**

Highlights from local pilots:  
14 January to 10 March 2013

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## Note of clarification

In January 2011, *Improving Outcomes: A Strategy for Cancer* set out the Government's ambition to save an additional 5,000 lives by 2014/15. The aim was to achieve this through earlier diagnosis and better access to treatment. The Department of Health (DH) had started the focus on earlier diagnosis following the Cancer Reform Strategy in 2007 and the symptom awareness-raising activity began in 2010. Since April 2013, the Be Clear on Cancer programme of activity has been delivered by Public Health England in partnership with DH, NHS England and Cancer Research UK.

At the time of these local ovarian cancer pilots, DH were leading on the Be Clear on Cancer activity and therefore will be referenced throughout the document.

On the whole, the local ovarian campaign was targeted at women over the age of 50 years. This target audience was selected due to incidence, mortality, survival and staging data that were available at the time for England. However, for some elements of the campaign, such as the media buying, a slightly older demographic of over 55 years was selected. This is a standard age band for buying media. In this report, you will see both over 50 and over 55 being referred to.

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# 1. Executive summary

## Background

In January 2011, *Improving Outcomes: A Strategy for Cancer* set out the Government's ambition to save an additional 5,000 lives by 2014/15. This was to be achieved through earlier diagnosis (through increased awareness of symptoms and earlier presentation) and better access to optimal treatments.

Be Clear on Cancer started in 2010, before the 2011 Strategy, as a result of the focus on earlier diagnosis in the 2007 Cancer Reform Strategy. By early 2013, campaign activity had been run on lung, breast, bowel, bladder, kidney and oesophago-gastric cancers. A review of key cancer data, including incidence, mortality and stage of diagnosis for England, and of information and guidance from patient groups, charities and clinicians, was conducted to decide which cancer types to focus on next. Based on all the information available at the time, it was decided to pilot an awareness campaign on the symptoms of ovarian cancer.

DH funded four local ovarian pilots to run in the former Cancer Network locations of:

- Anglia and Essex
- North Trent
- Thames Valley
- Yorkshire – including North East Yorkshire and Humber

Although not funded by DH, Mount Vernon Cancer Network decided to run a local ovarian cancer campaign and was keen to be involved in this pilot activity. It was agreed that they would use the same Be Clear on Cancer creative and join in the planning discussions to ensure the greatest alignment possible. Where relevant, evaluation results have been monitored for the Mount Vernon pilot and included in this report.

The main advertising burst of the ovarian cancer activity was from 14 January to 17 March 2013. Engagement activity with local clinical and support teams, charity groups and community-based partners began earlier.

The campaign featured the symptom of feeling bloated most days for three weeks or more and was targeted at all women aged 50 years and over.

The primary objectives of the campaign were to:

- raise the awareness of the signs and symptoms of ovarian cancer among the target audience.
- increase the presentation of symptoms of ovarian cancer by the target audience to primary care.
- inform decisions about progression of the campaign to regional roll-out.

Through the Be Clear on Cancer activity, it is hoped that more cancers will be diagnosed at an earlier stage. However, due to incidence rates, the relatively small populations covered by the pilot areas and the duration of the campaign, it was accepted that it was unlikely that the local ovarian pilots would show any significant changes in cancers diagnosed and stage of disease. The local pilots were seen more as a test of feasibility and acceptability of the proposed approach.

In order to inform future campaign delivery, the local pilot campaign consisted of three different approaches: media only (Anglia and Essex); community outreach only (North Trent); and media and community outreach (Thames Valley and Yorkshire, including North East Yorkshire and Humber). It was delivered in partnership with the former Cancer Networks, clinical leads in local hospitals, general practice and public health teams.

Media consisted mainly of radio and press advertising. It also included some 'out of home' advertising to ensure coverage at a more local level, such as advertising on pharmacy bags or in GP surgeries. Pilots at a local level do not include TV advertising.

Community outreach activity was led by the local teams and they determined the best way to reach out to the target audience in their area. This often included working with local charities, ambassador/community champion type volunteers and utilising existing community channels of communications, such as talks at local clubs and places of worship, and, for some of the projects, engaging with local prison teams.

It is worth noting that, at the same time as the local ovarian cancer pilots, two regional pilots that included TV advertising were running: in the North East and North Cumbria for 'Blood in Pee'; and for breast cancer in women over 70 in the Midlands area. At a local level a generic campaign was also running that looked at four common symptoms of cancer (pain, weight loss, blood and lump). In some of the periphery areas, there was a crossover of campaigns, for example some women in the North Trent area might see both ovarian cancer activity at a community level, and breast cancer in women over 70 advertising on the TV and radio.

## Findings

Evaluation found that following the local ovarian cancer awareness campaign there was an increase in survey respondents' awareness of general cancer advertising/publicity within the local pilot areas. However, there was no significant change in recall of ovarian cancer advertising specifically, with indications of a lot of 'background noise' in cancer advertising around the time of the local pilot. However, media as a campaign approach seemed to be successful with a significant increase in respondents spontaneously mentioning bloating as a sign and symptom of ovarian cancer, and a corresponding decrease in the proportion of respondents reporting that they did not know any symptoms of ovarian cancer. Prompted awareness of 'feeling bloated most days for three weeks or more' as a definite warning sign of ovarian cancer also increased in the areas receiving media. There was no increase in the proportion of respondents in the community outreach only area saying this symptom was a definite warning sign, but there was a significant decrease in respondents endorsing that it was probably not a warning sign. Confidence in spontaneously describing a sign or symptom of ovarian cancer remained fairly low both pre- and post-campaign across the three approaches.



There was an increase in the number of GP visits by patients with unexplained bloating symptoms during the campaign period compared with the same period in the previous year, and compared with the eight weeks pre-campaign. Only marginal changes were evident for control symptoms, with no significant increases in the pre- or live-campaign period. These results indicate that the local pilot campaign may have had an impact on GP visits for the key campaign symptom.

An initial analysis of imaging activity suggests the campaign had little effect on the number of imaging tests carried out which could have been related to suspected ovarian cancer. However, further analysis is required. There was, however, a significantly greater increase in the number of CA125 blood tests carried out in the pilot area compared with the control area for a period in May – June 2013, compared with May – June 2012, suggesting some impact on diagnostic tests following the campaign. However, due to the limitations of the data available this period was a few months after the campaign finished so it is unclear whether this could be an impact of the campaign.

The increase in the number of urgent GP referrals for suspected gynaecological cancers during January – April 2013 compared with the same period in the previous year was similar for the local pilot area and the control area. This was also evident for the May – August period, suggesting that the campaign did not have an impact on the number of referrals for suspected gynaecological cancers. This may be a reflection of the pathway for suspected ovarian cancer, where urgent referrals usually follow positive chemical pathology (CA125) or ultrasound tests.

## Conclusion

The local area scale of this awareness-raising activity, along with the apparent 'background noise' in cancer publicity, makes the evaluation of the local ovarian cancer pilot campaign challenging, with statistically meaningful results harder to attain compared with larger regional or national level Be Clear on Cancer campaigns. However, there have been some interesting findings worth consideration.

Following this local pilot, a regional ovarian cancer campaign was carried out in the North West from February to March 2014. Results from this campaign will also be published as and when available. Details can be found at: [www.naedi.org/beclearoncancer](http://www.naedi.org/beclearoncancer).

## 2. Campaign inputs and outputs

This section describes the details, costs and timings of the local Be Clear on Cancer ovarian cancer campaign. It includes estimates (based on media consumption data) of how many people had the opportunity to see, hear, or experience it. It also describes the clinical engagement and some of the partnerships forged with other organisations as part of the campaign.

### 2.1. Campaign costs

The campaign cost approximately £560,000. Media advertising accounted for around 78% of the costs. Other costs included creative development and research (excluding tracking research costs). No evaluation costs are included in this figure.

### 2.2. Creative development

In 2010, M&C Saatchi won a competitive tender to produce an overarching proposition for a series of new cancer awareness campaigns which would:

- enable the target audience to become clear about the symptoms
- understand the action that they need to take (i.e. visiting their GP)
- understand the benefit of doing so (cancer is treatable if caught early)

The first regional campaign, for bowel cancer, which introduced TV advertising into the mix, took place in January 2011. By January 2013, a series of campaigns had been developed promoting a number of cancers and their symptoms.

Figure 1 – Be Clear on Cancer campaign posters




Dr Cathy Burton

**If for the last 3 weeks you've had blood in your poo or it's been looser, don't sit there, tell your doctor.**

It could be the early signs of bowel cancer. Finding it early makes it more treatable and could save your life.

**BE CLEAR ON CANCER**  
nhs.uk/bowelcancer




Dr Ian Watson

**Been coughing for 3 weeks? Tell your doctor.**

A persistent cough could be a sign of lung cancer. Finding it early makes it more treatable.

**BE CLEAR ON CANCER**  
nhs.uk/lungcancer




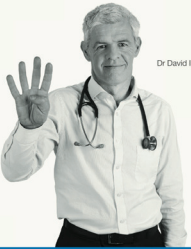

Dr Jane Scott

**Tell your doctor**

**Food sticking when you swallow could be a sign of cancer.**

It might not be anything serious, but if there is something wrong, then finding it early makes it more treatable. So tell your doctor.

**BE CLEAR ON CANCER**  
nhs.uk/gcancer

Dr David Isaac



**Know 4 sure**

When it comes to cancer, there are 4 key signs to look out for:

1. Unexplained blood that doesn't come from an obvious injury
2. An unexplained lump
3. Unexplained weight loss, which feels significant to you
4. Any type of unexplained pain that doesn't go away

Chances are it's nothing serious, but finding it early makes it more treatable. So if you notice any of these signs, tell your doctor.

**BE CLEAR ON CANCER**  
nhs.uk/know4sure

Dr Anant Sachdev

**If you notice blood in your pee, even if it's 'just the once', tell your doctor.**

It could be an early sign of kidney or bladder cancer. Finding it early makes it more treatable, so tell your doctor straight away.

**BE CLEAR ON CANCER**  
nhs.uk/bloodinpee




Joan Brown, 81, cancer survivor

**1 in 3 women who get breast cancer are over 70, so don't assume you're past it.**

A lump isn't the only sign of breast cancer. If you're worried about any changes to your breasts, tell your doctor straight away. Finding it early makes it more treatable and could save your life.

**BE CLEAR ON CANCER**  
nhs.uk/breastcancer70

As with other Be Clear on Cancer activity, an expert group was formed to guide the development of the campaign. This group included clinical colleagues from primary and secondary care, patient groups and charity representatives. They helped to establish key elements of the campaign such as the symptom the campaign should focus on; the duration of that symptom, and challenges that clinical colleagues may experience in referring and diagnosing patients. This informed the creative development and also the clinical engagement that supported the roll-out of the campaign.

It was essential to understand the reactions of the key audiences to the symptom and possible approaches to the campaign. This enabled the creative to be developed and shaped to target the audience as effectively as possible. Qualitative research was undertaken by Research Works, an independent market research organisation, in September 2012. The fieldwork was conducted in Hull and St Albans, and consisted of two waves of activity to allow for some refinement of the creative concepts in between the focus groups. It included four focus groups for a female audience of 50–64 years from a lower socio-economic group (C2DE) and a higher socio-economic group (ABC1) for women over the age of 65 years. It also included a small sample of in-depth interviews with GPs.

This early fieldwork found that spontaneous recall of previous Be Clear on Cancer campaigns was positive. The bowel and lung campaigns in particular were highlighted by participants. They expressed that the campaigns had improved their knowledge of symptoms and when to go to their GP. C2DE respondents expressed the view that the campaign gave them confidence in their dealings with their GP.

The symptom of 'bloating' was tested with the target audience and was a familiar symptom, which some respondents suffered from regularly and without concern. Therefore, they would be unlikely to visit their doctor. There was a shared view that ovarian cancer is difficult to diagnose and is easily masked by other conditions such as irritable bowel syndrome (IBS).

The concept of an ovarian cancer campaign focused on the symptom of bloating was seen as valuable in that it gives 'permission' to go to a doctor should it become a persistent or unexplained condition.

The fieldwork also allowed us to explore what marketing approaches would be viewed as acceptable and the best at reaching the target group. For example, the idea of direct mail was tested with the groups.

Following this work, the creative approach for ovarian cancer was confirmed (see figure 2). This campaign creative provided a clear symptomatic message. It included an explanation of frequency and timing to help guide the viewer. The ambition was that this clarity of message and the use of the GP in the photography would build the 'permission' element that had been discussed in the qualitative research.

Figure 2 – Be Clear on Cancer posters for the local ovarian cancer pilot



### 2.3. Communication channels

Local level pilots are the first stage in the Be Clear on Cancer evolution. They are used to test whether the message is being understood by the target audience and to start to understand the impact that the campaign will have on NHS services. At this level, TV is not included in the marketing mix because it covers large geographical areas which are often wider than the local pilot footprint areas. The channels that are used at local pilot stage are those that can be targeted to specific geographical localities, such as press and radio adverts.

In order to inform future campaign delivery, not only for the ovarian cancer campaign but other cancer campaigns too, the local pilots consisted of three different approaches: media only, community outreach only, and media and community outreach:

- Anglia and Essex (media only)
- North Trent (community outreach only)
- Thames Valley (media and community outreach)
- Yorkshire – including North East Yorkshire and Humber (media and community outreach)

The media only approach consisted of mainly radio and press advertising. It also included some 'out of home' advertising such as pharmacy bags and screens in GP surgeries, as such advertising can be bought at a local level and is effective at reaching a 50+ audience.

Community outreach was led by the local teams and they determined the best way to reach out to the target audience in their area. Most of the pilots utilised existing communication channels and engaged with the target audience through a range of community groups and forums.

## 2.4. Pilots including media

For those pilots that included media, this was booked centrally by DH and plans were communicated to the local teams throughout the development stage. This enabled local teams to keep their clinical and support colleagues up to date.

The choice of media channels available was restricted based on the geographical boundaries of the pilot and those of the advertising outlets. There was a desire from DH and local teams to minimise advertising spilling over into non-pilot areas. This was to protect the evaluation 'control' areas (ie those not carrying out the ovarian cancer pilot activity) and also to help local NHS teams to plan for any possible impact.

Given the budgets available and with the aim of reaching as many women over the age of 50 in the localities as possible, four key media channels were used:

- press adverts
- radio
- 'out of home' advertising
- online

### Press adverts

The press adverts complemented other key campaign items such as posters and the leaflet for the public. The adverts appeared in colour in a range of local titles.

Figure 3 – Example of the press advert for the ovarian cancer pilot



## Radio advert

The radio advert was 30 seconds long and needed to capture the attention of those women who had bloating most days but may not be recognising the potential severity of their symptom. It needed to resonate with them but also push them to seek medical advice if their symptoms were persisting. Therefore the advert was based on a concept of continuously trying various remedies to help with the symptom of 'bloating'. At the end, the advert prompts that if the symptoms persist, they should go to see their GP and reminds the listener that diagnosing cancer early makes it more treatable.

Figure 4 – The radio script for the ovarian cancer local pilot campaign

# M&C SAATCHI

## Radio

CLIENT	TITLE	DATE
DH	Ovarian cancer radio "Try"	08.11.12

This ad features an older female VO. She could be someone who's well known, possibly a comedienne. Think along the lines of Jenny Éclair. She's certainly someone with a strong point of view. It should feel impassioned, like the 'choose life' opening from 'Trainspotting'.

**FVO:** When it comes to feeling bloated, there are so many things to try... Try cutting out wheat... Try sitting down, try standing up. Try undoing a button... Try eating slower... Try avoiding fizzy drinks...

But if it won't go away...

Why not try telling your doctor?

**MVO:** Feeling bloated most days for 3 weeks or more could be a sign of ovarian cancer. Chances are it's nothing to worry about, but finding it early makes it more treatable... So if you can't get rid of that bloated feeling, tell your doctor... Be clear on cancer.



The maps in this section show the footprint of the pilot areas and the tables give details of the radio channels and press titles used for advertising. The mix of radio and press was constructed to provide maximum coverage within the pilot area, while minimising overspill outside the pilot area.

Figure 5 – Anglia and Essex pilot area

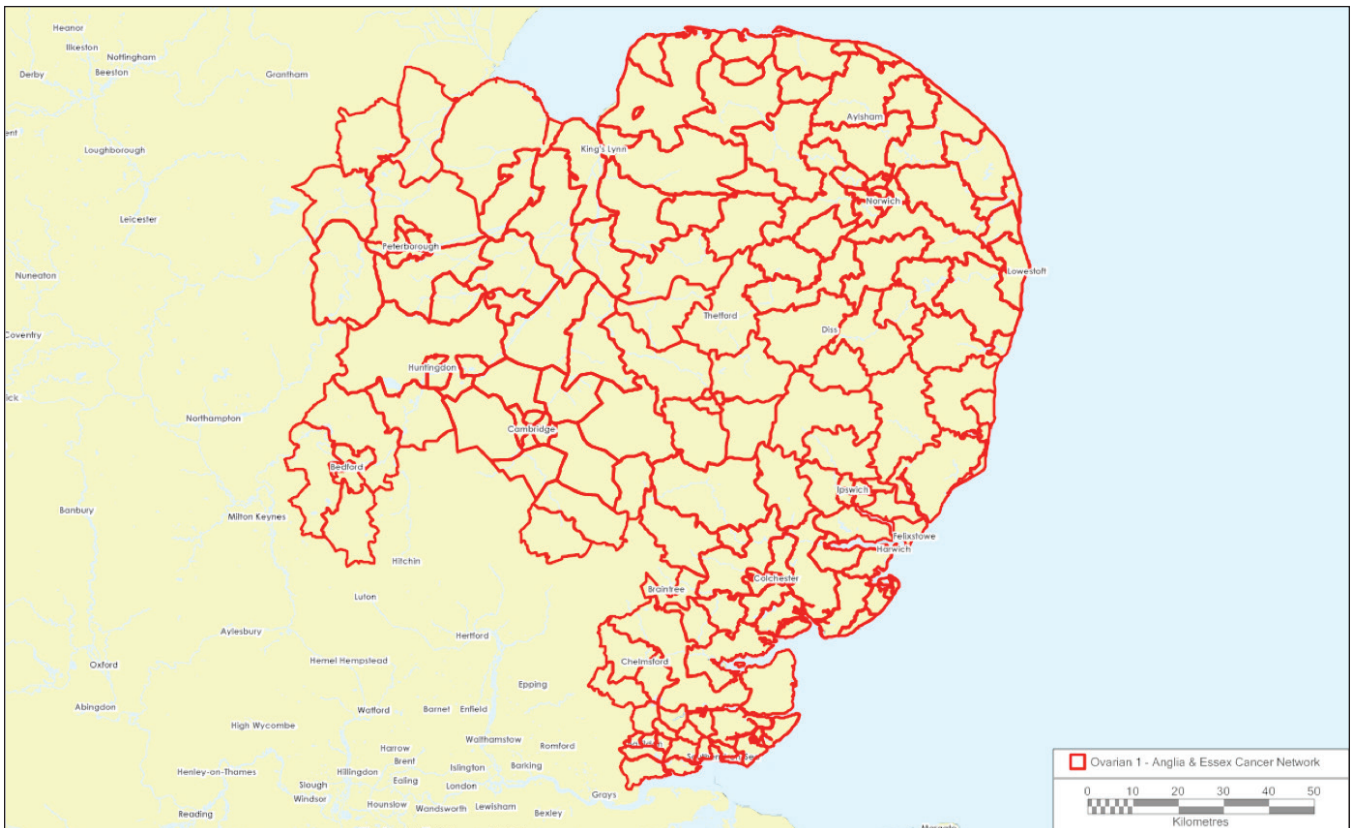




Figure 6 – Anglia and Essex – regional press

Press													
Supplier	Jan				Feb				Mar				
	7	14	21	28	4	11	18	25	4	11	18	25	
<b>REGIONAL PRESS</b>													
Basildon & Southend Echo		X			X		X			X			
Bedford Times & Citizen Group		X			X		X			X			
Bury Free Press		X			X		X			X			
Cambridgeshire Times & Standard Group		X			X		X			X			
Clacton Gazette		X			X		X			X			
East Anglian Daily Times		X			X		X			X			
Essex Chronicle		X			X		X			X			
Fenland Citizen		X			X		X			X			
Ipswich Star (Thurs)		X			X		X			X			
Lowestoft Journal		X			X		X			X			
Lynn News (Fri)		X			X		X			X			
Norfolk Eastern Daily Press		X			X		X			X			
Norwich Evening News		X			X		X			X			
Peterborough Evening Telegraph		X			X		X			X			
The Hunts Post		X			X		X			X			
Castlepoint Yellow Advertiser		X			X		X			X			
Diss Express		X			X		X			X			
Harwich & Manningtree Standard		X			X		X			X			
Halstead Gazette		X			X		X			X			
Colchester Gazette		X			X		X			X			

It was estimated that by advertising in local press in the Anglia and Essex pilot area, almost 48% of the target audience would be reached. On average they would see the Be Clear on Cancer ovarian cancer advert just over three times.

Figure 7 – Anglia and Essex – radio

Radio		14 Jan - 17 Mar											
Supplier	Area	Jan				Feb				Mar			
		7	14	21	28	4	11	18	25	4	11	18	25
Gold Essex	Southend & Chelmsford												
KL.FM 96.7	King's Lynn												
Gold Cambridgeshire	Peterborough												
Dream 100	Colchester/Clacton												
Star Radio in Cambridge	Cambridge												
Radio NORWICH 99.9	Norwich												
Gold East Anglia	East Anglia												
Gold Bedford	Bedford												

It was estimated that by advertising on the radio in the Anglia and Essex pilot, 16% of the target audience would be reached. On average they would hear the advert 16 times.

Figure 8 – Thames Valley pilot area

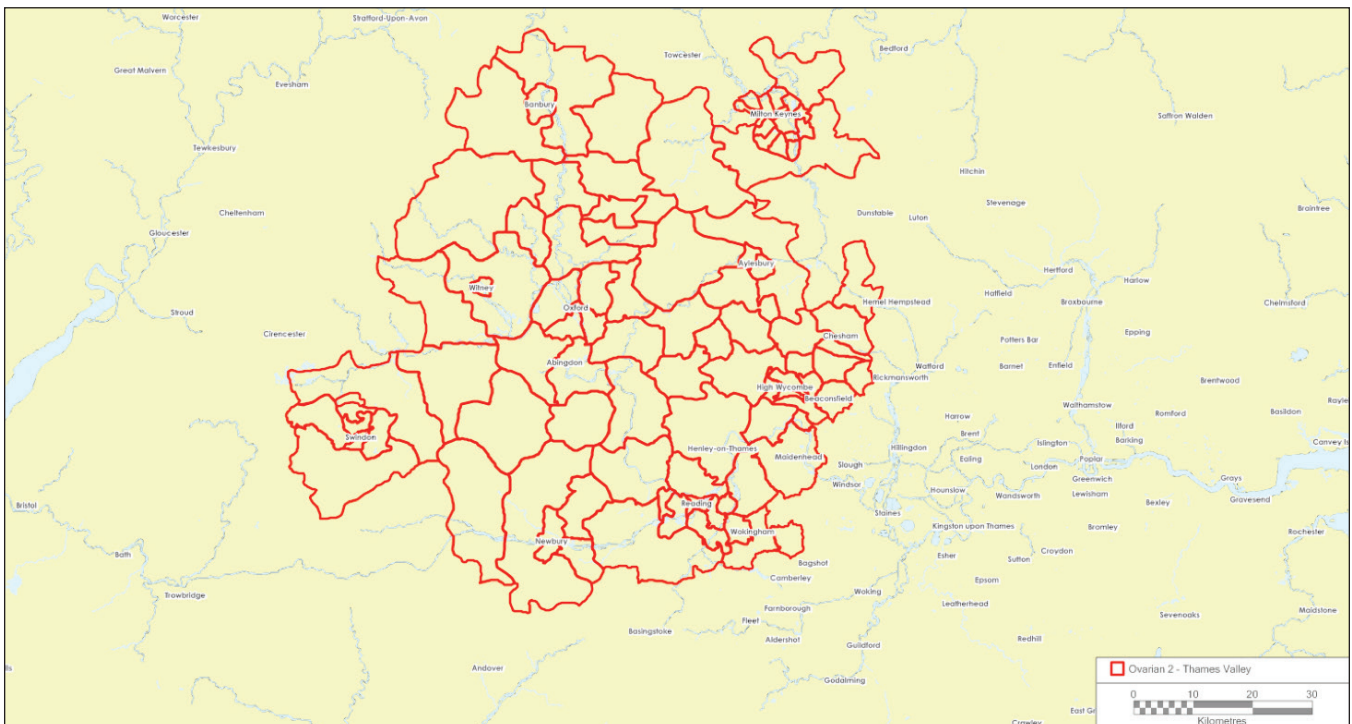


Figure 9 – Thames Valley – regional press

Press													
Supplier	Jan				Feb				Mar				
	7	14	21	28	4	11	18	25	4	11	18	25	
<b>REGIONAL PRESS</b>													
Banbury Guardian		X			X		X		X				
Bucks Free Press		X			X		X		X				
Get Reading		X			X		X		X				
Henley Standard		X			X		X		X				
Maidenhead Advertiser		X			X		X		X				
Milton Keynes Citizen		X			X		X		X				
Newbury Weekly News		X			X		X		X				
Oxford Mail		X			X		X		X				
Oxford Times		X			X		X		X				
South Bucks Wycombe & Chiltern Star		X			X		X		X				
Swindon Advertiser		X			X		X		X				

It was estimated that by advertising in local press in the Thames Valley pilot area, 43% of the target audience would be reached. On average they would see the Be Clear on Cancer ovarian cancer advert 3.5 times.

Figure 10 – Thames Valley – radio

Radio		14 Jan - 17 Mar												
Supplier	Area	Jan				Feb				Mar				
		7	14	21	28	4	11	18	25	4	11	18	25	
Mix 96	Aylesbury													
Reading 107 FM	Reading													
107.6 Banbury Sound	Banbury													
106 JACK fm (Oxford)	Oxfordshire													
Heart Thames Valley	Thames Valley													
Heart Milton Keynes	Milton Keynes													

It was estimated that by advertising on the radio in the Thames Valley pilot, 28% of the target audience would be reached. On average they would hear the advert 18 times.

Figure 11 – Yorkshire pilot area



Figure 12 – Yorkshire – press

Press												
Supplier	Jan				Feb				Mar			
	7	14	21	28	4	11	18	25	4	11	18	25
<b>REGIONAL PRESS</b>												
Bradford Telegraph		X			X		X		X			
Dewsbury Reporter Group		X			X		X		X			
Grimsby Telegraph		X			X		X		X			
Halifax Evening Courier		X			X		X		X			
Harrogate Advertiser Group		X			X		X		X			
Huddersfield Daily Examiner		X			X		X		X			
Hull Advertiser Group		X			X		X		X			
Leeds – Yorkshire Evening Post		X			X		X		X			
Scarborough Evening News		X			X		X		X			
Scunthorpe Telegraph		X			X		X		X			
Wakefield Express		X			X		X		X			

It was estimated that by advertising in local press in the Yorkshire pilot area, almost 39% of the target audience would be reached. On average they would see the Be Clear on Cancer ovarian cancer advert about three times.

Figure 13 – Yorkshire – radio

Radio		14 Jan - 17 Mar											
Supplier	Area	Jan				Feb				Mar			
		7	14	21	28	4	11	18	25	4	11	18	25
Magic 828 (Leeds)	Leeds												
The Pulse	Bradford & Huddersfield												
97.2 Stray FM	Harrogate												
Magic 1161 (Hull)	Humberside												
Pulse 2	Yorkshire												
Ridings FM	Wakefield												
Minster FM	York												
Yorkshire Coast Radio	Yorkshire												

It was estimated that by advertising on the radio in the Yorkshire pilot, almost 28% of the target audience would be reached. On average they would hear the advert 20 times.

### ‘Out of home’ advertising

To supplement the radio and press advertising, ‘out of home’ advertising was also used. This consisted of three additional elements:

- advertising on 289 screens in GP surgery settings across the pilot areas; this featured the details shown on the campaign poster
- supplying some of the pharmacies in pilot areas with branded pharmacy bags; over one million bags were provided in total
- 750 outdoor adverts (6 sheet posters) appeared in key community locations, such as bus stops

### Online advertising

The final part of the communications plan for the media pilots was paid-for searches. DH was not able to fully exploit this channel of communication because some social media cannot be contained to small localities.

Bespoke pages were created on the NHS Choices website to provide users with key information, more details on the symptoms and the opportunity to listen to the radio advert and download the leaflet. Key word searches were linked to the Be Clear on Cancer pages on NHS Choices. The number of clicks through to the landing page from these searches was monitored during the campaign.

The most popular advert is shown in figure 14. This advert had a click through rate of 17.8%.

Figure 14 – Example of an online advert for the ovarian cancer pilot

### **Ovarian Cancer Symptoms**

Finding ovarian cancer early makes it more treatable.

[www.nhs.uk/persistentbloating](http://www.nhs.uk/persistentbloating)

The overall campaign delivered 30,192 homepage landings (this refers to the Be Clear on Cancer ovarian cancer homepage). The overall ‘clicks’ figure for the campaign period was 36,040; this exceeded the target that was originally set prior to the campaign (33,474).

Some of the local pilots may have used other online advertising and communications channels, such as twitter updates or information on their local website pages. The Mount Vernon pilot also ran a Facebook advertising campaign. The Facebook advertising prompts only appeared for women in the target age range and living in the pilot area.

### **Direct mail**

It is also worth noting that direct mail was tested as part of the qualitative research at the start of the campaign development. The results indicated that it would be well received by the target audience of women over 50 years. However, due to the amount of other Be Clear on Cancer activity going on at the time including two regional pilots (which would both be testing the direct mail approach) a decision was made to not include direct mail in the local ovarian pilots.

## **2.5. Pilots including community outreach**

For those pilots including community outreach as part of the strategy, this included a range of activities relevant to their local area. Community outreach work tends to be more personal, with face-to-face interactions within various community settings. Therefore, although the reach of this sort of activity is less than media advertising, it is a more in-depth engagement. The reason for trialling these variations within the pilot phase was to try and understand the best mix of high-level advertising and community-based interactions.

In the Yorkshire region (including the Yorkshire coast and Humber area) they used existing cancer champions that had been established for previous cancer awareness activities – this was over 100 champions. The aim was to conduct community engagement activities in a variety of locations such as shopping centres, bingo halls, supermarkets and libraries, and community events such as Walking Back to Health groups, over-50s exercise classes, line dancing and allotments. In addition, they looked at communities with specific needs and, as part of their strategy, linked in with the local women’s prison. They held an event which brought the various ovarian cancer charities together to understand the best way they could support each other and collaborate as part of the pilot.



In the Thames Valley region they had previously run Be Clear on Cancer activity and had a team of established 'Health Activists' and a small number of 'Community Champions' to help them spread the word and distribute campaign information in the various local settings. This included local employers, especially those who would have a high proportion of female employees. Although they would utilise these activists and champions across the whole of the Thames Valley area, they looked at 'hot spots'. For example, Milton Keynes had an incidence of ovarian cancer which was significantly higher than the England average and mortality from ovarian cancer was also comparatively high – this became an area in which they would run more in-depth activity. Again, as with other pilot areas, Thames Valley partnered up with ovarian cancer charities to support the community outreach work.

In the North Trent area the Cancer Network had already developed a community-based model using local organisations and volunteers who had previously received training to deliver personalised cancer awareness messages. The Network continued to build on this approach as part of the ovarian cancer pilot. They worked with relevant organisations to deliver both general cancer awareness and specific ovarian cancer messages in this way. They also looked at their local area and identified areas of inequality or where it was known that engagement with health services may be poorer, and once those areas and communities had been identified, more in-depth engagement took place there.

The teams in Anglia and Essex were encouraged to simply inform their networks of community champions about the campaign. They shared the key messages so champions were aware, but asked them to not overtly promote the campaign. Feedback from the local team did highlight that this was a challenge due to both the local enthusiasm and also the number of queries raised following the start of the advertising. So it is acknowledged that the test of the various mix of media, press and community outreach is not a clean and strict test and control scenario.

## 2.6. PR activities

Due to the need to limit press coverage to the pilot areas (ie minimise any coverage outside of the pilot geography), the PR activity was restricted. For example, although it was recognised that for this female audience women's magazines would be a good channel to promote the campaign, because of their national coverage, this would not be possible. Local teams, predominately through the former Cancer Networks, led on the PR activities. Using their local contacts and media channels, they would promote whatever activity was going on – be that community outreach activities or advertising. To support the local teams with this, DH provided a toolkit which included:

- campaign information and background
- key messages
- resources such as statistics and template copy for newsletters etc
- social media suggestions
- template press note

As part of the process of piloting different combinations of media and community outreach work, the local team in North Trent were encouraged not to proactively push PR activities, but simply to respond to those that arose naturally as part of the campaign process.

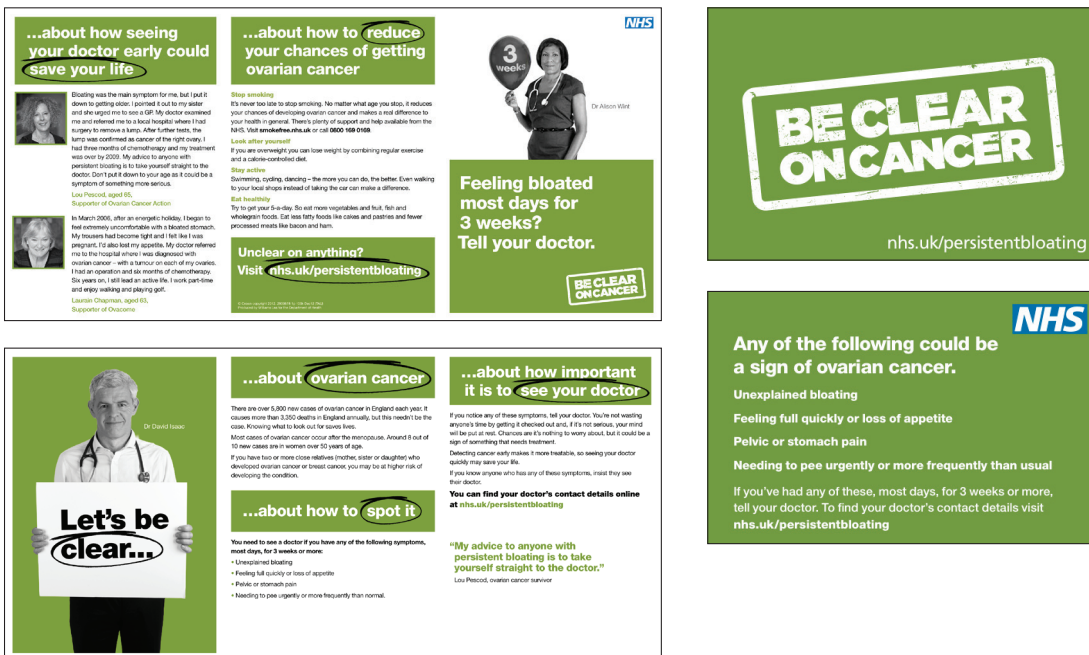
## 2.7. Leaflets, posters and symptom cards

The Be Clear on Cancer leaflet and posters included images of GPs to help provide reassurance that this is a symptom they want to hear about. The campaign leaflet provided the public with more information on ovarian cancer, such as other symptoms, and also helped to build the belief that early diagnosis was important. Two case studies highlighted that women do survive ovarian cancer. A small section on lifestyle guidance was included and provided information on reducing the risk of ovarian cancer. However, the majority of the leaflet was focused on the symptoms and spotting cancer early.

The symptom card was produced as a more discreet reminder that women could pick up from community settings or be given as a handout while involved in any face-to-face interactions organised by the local teams.



Figure 15 – The campaign leaflet and symptom card



Leaflets and posters were available free of charge for the local teams to order and distribute to places that they considered relevant to the campaign, ie locations that were visited by women over the age of 50. Posters were typically displayed in settings such as local pharmacies, GP surgeries, community halls and venues. When community champions, ambassadors and charity volunteers were out talking to groups of women, they would often have the Be Clear on Cancer leaflets, posters and symptom cards available to hand out. This ensured consistency of message in all the face-to-face interactions, which was particularly important in the projects running community outreach pilots.

Other materials were also made available in the form of artwork, so the local NHS teams could adapt and print them. This included 'empty belly' posters which contained the main poster image but also white space for adding in the details of a local event or where to go for more information, and banners for use at community events.

## 2.8. Clinical engagement

As with previous Be Clear on Cancer pilots, clinical engagement was primarily delivered through the former Cancer Networks, who were allocated funding for this purpose from DH (excluding Mount Vernon). The aim was to prepare clinicians (primary and secondary care) for the potential increase in presentation with relevant symptoms.

A number of pilots worked with their Network Site Specific Groups (NSSGs) to ensure that information cascades were taking place and reaching the right clinical audiences. Some of the pilot areas held education sessions to help bring primary and secondary care colleagues together, and share information and clinical experiences on ovarian cancer. This was also a useful forum for sharing and discussing referral guidance, which was of particular interest for this campaign due to a refresh of the National Institute for Health and Care Excellence (NICE) guidance and the introduction of CA125 as part of the diagnostic process.

Information on the campaign timing, communication activities, aims, messages and target group was shared with the Cancer Networks on a regular basis via email and conference calls. The Networks then tailored and cascaded the information out to other essential groups such as GP leads and cancer unit managers.

A series of briefing sheets for key stakeholders was developed and again made available for cascade. This included bespoke briefings for GPs, practice teams and pharmacists. A community champion/ambassador briefing was also developed as part of this series. This was done to ensure that those involved in spreading the word via more face-to-face interactions in the community outreach pilots had been provided with a consistent message across all the pilots and had all the information they needed.

These short electronic briefings enabled colleagues to understand why the campaign was needed and the evidence base to support it, providing signposts to further information. Learning from other Be Clear on Cancer pilots was also included on the briefing sheets to help NHS colleagues understand the potential impact so they could plan for changes in service demand.

Figure 16 – Briefing sheets for GPs, pharmacy teams and community champions

The image shows three briefing sheets for the 'Be Clear on Cancer' ovarian cancer awareness campaign. Each sheet is designed for a different audience: GPs, pharmacy teams, and community champions. The sheets are titled 'Ovarian cancer: How GPs can help with the campaign', 'Ovarian cancer: How pharmacy teams can support the campaign', and 'Ovarian cancer: How you can raise awareness in your community'. Each sheet includes a photo of a speaker, the NHS logo, and the 'Be Clear on Cancer' logo. The text on each sheet provides key messages and information about the campaign's goals and objectives. The sheets are arranged in a row, with the first sheet on the left, the second in the middle, and the third on the right.

## 2.9. Partnerships

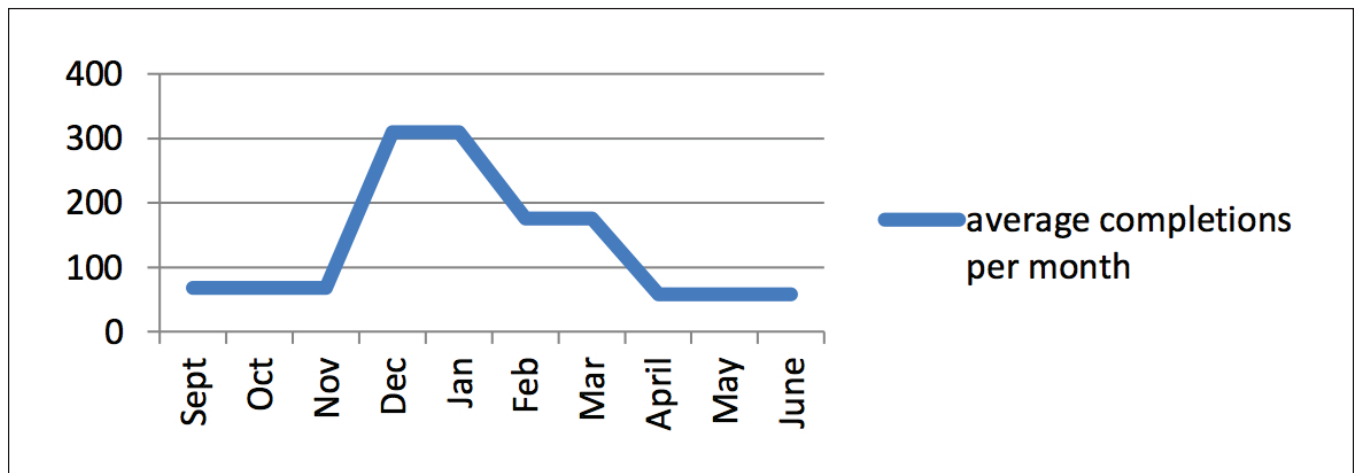
A number of the charities that focus on ovarian cancer supported the local teams through the provision of speakers at events, volunteers and patient case studies. They also supported clinical audiences, for example:

The charities Ovacom, Ovarian Cancer Action and Target Ovarian Cancer all reviewed and commented on the briefing sheets for clinical colleagues.

Royal College of General Practitioners Learning Module: Target Ovarian Cancer developed a GP Learning Module based around bloating, produced with the RCGP (with accredited CPD points), which directly correlated to the theme of the Be Clear on Cancer campaign. In the first three months of the module going live, there were 1,094 completions.

BMJ Learning Tool: Developed by Target Ovarian Cancer, it consisted of a one-hour module that looked at ovarian cancer in primary care and examined the importance of early diagnosis and prognosis, the risk factors, and the signs and symptoms to look out for. It also discussed further investigations and how to interpret and convey the results to patients in a primary care setting. NICE had undertaken a check of the resource at the point at which this link was published and was satisfied that it broadly supported the latest NICE guidance. Over 720 completions of the module were undertaken between December 2012 and March 2013, above what would have been expected at this time.

Figure 17 – Average completions of BMJ Learning CPD tools per month



Although these tools were not branded Be Clear on Cancer or designed specifically for the campaign, they were promoted to the relevant audiences. The briefing sheets for primary care colleagues highlighted these learning modules and other relevant tools and information.

### 3. Evaluation approach

To evaluate the impact of the local ovarian cancer awareness pilot campaign, data were collected and analysed for a range of metrics. These reflected different points along the patient pathway, from campaign and symptom awareness, through to the number of urgent GP referrals made and diagnostic tests carried out. Figure 18 shows the range of metrics evaluated and the source of each. This report brings together the contributions towards data collection, analysis and reporting from a number of different teams across a range of organisations.

For the evaluation of other Be Clear on Cancer campaigns (mostly regional and national campaigns), additional metrics from further along the patient pathway have also been collected and analysed where possible, for instance the number of cases diagnosed, stage of disease, and the source of referral. However, data for these measures take longer to collect and compile, and once a decision has been made for a local pilot campaign to be rolled out at a regional level (and in some cases a national campaign too), a line is drawn under the evaluation of the local pilot version of the campaign. This is because there is greater statistical power for the evaluation results at a regional or national level (particularly when campaigns relate to less common cancers). Following this local ovarian cancer pilot, a regional ovarian cancer campaign took place between February and March 2014. Results from this campaign will be published as and when available.

**Figure 18 – Evaluation metrics**

Data		Source
Public awareness		Tracking survey undertaken by TNS BMRB (market research company).
Presentations to primary care		GP Read Code data compiled and analysed by Mayden (healthcare IT specialists).
Urgent GP (two week wait (2WW)) referrals for suspected gynaecological cancer		Data from the National Cancer Waiting Times Monitoring Dataset (provided by NHS England). Data extracted and analysed by the National Cancer Intelligence Network (NCIN).
Conversion rates following urgent GP referrals		
Diagnostic tests	Non-obstetric ultrasounds from the Monthly Diagnostics Waiting Times and Activity Dataset (DM01)	Data from the DM01 provided by Analytical Service (Operations) NHS England and analysed by Cancer Research UK (CRUK).
	Ultrasound and CT scans from the Diagnostic Imaging Dataset (DID)	DID provided by NHS England. Data from DID extracted and analysed by the DID team.
	CA125 blood tests	NHS England through messages captured off the Data Transfer Service (DTS).

## 4. Public awareness

In order to assess whether the local pilot ovarian cancer campaign message that feeling bloated most days for three weeks could be a sign of ovarian cancer was reaching the target audience and having any impact on cancer awareness, an awareness survey was commissioned.

### 4.1. Data and methods

DH commissioned TNS BMRB (an independent market research organisation) to undertake quantitative pre- and post-campaign surveys on a random location sample of the target population (women aged 55+) in the pilot area. Data were aggregated for the areas according to the campaign approach taken (media and community outreach, media only or community outreach only) to allow the different approaches to be assessed individually.

Approach	Area
Media and community outreach	Yorkshire (including North East Yorkshire and Humber) and Thames Valley
Media only	Anglia and Essex
Community outreach only	North Trent

The questions, including some informed by the Cancer Awareness Measure (Stubbings *et al*, 2009) and the ovarian cancer specific version (Simon *et al*, 2012), were added to the TNS omnibus survey, which is carried out on a representative sample of the population across England. Pre-campaign surveys were carried out from 14 November to 18 December 2012, with 605 participants overall (across the three approaches), and post-campaign surveys from 18 March to 14 April 2013, with 634 participants overall. The samples were weighted to be representative of the population within each region (unweighted bases are shown throughout the rest of this report). Interviews were conducted face to face using Computer Assisted Personal Interviewing (CAPI). Questions were asked to all respondents, unless otherwise stated.

Statistical significance pre- to post-campaign was tested using the two-sample test of proportions.



When interpreting the results it should also be considered that there were a number of additional 'Be Clear on Cancer' campaigns running at the same time: the breast cancer in women aged 70+ regional pilot in the Midlands; and the bladder and kidney cancer ('Blood in Pee') regional pilot in the North of England. In addition, the bowel cancer regional extension campaign was being carried out in Yorkshire, and bowel cancer outreach activity was taking place in Lancashire, Greater Manchester and North London. In 2012 there were also the following national campaigns that could have impacted on the results: the two national bowel campaigns, and the lung campaign.

## 4.2. Results

### Campaign awareness and recognition

#### *Spontaneous awareness of cancer advertising*

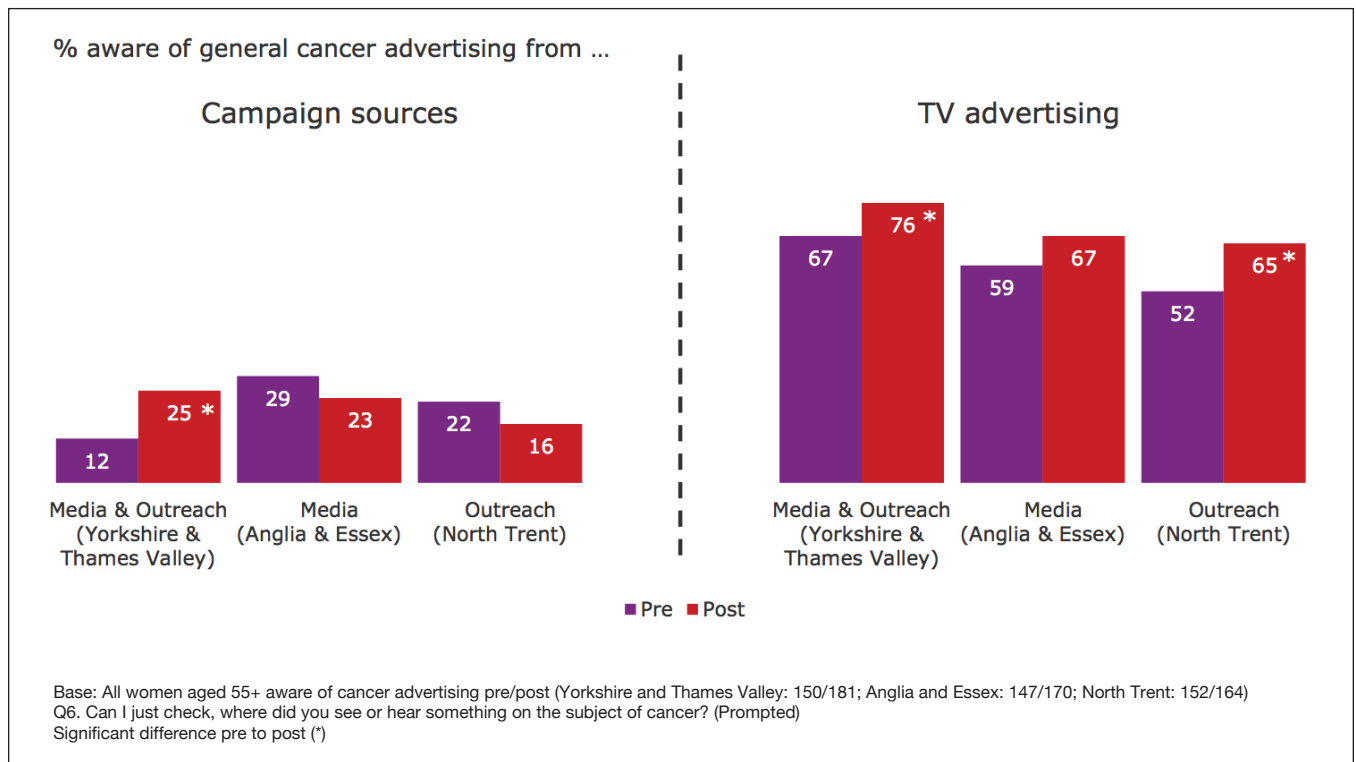
To gain an understanding of the broad awareness of cancer advertising and publicity, respondents were asked whether they had seen, heard or read any adverts or publicity about the subject of cancer in the last couple of months.

In the pre-campaign survey, around three quarters of the public surveyed across the three approaches in the pilot areas were aware of general cancer advertising or publicity before the campaign started (74% in Yorkshire and Thames Valley; 72% in Anglia and Essex; and 79% in North Trent). This highlights the 'background noise' that the campaign had to cut through. From the post-campaign survey, the proportion of respondents aware of general cancer advertising or publicity increased in Yorkshire and Thames Valley, and in Anglia and Essex; however, the increase was not statistically significantly different from the pre-survey in North Trent (86% in Yorkshire and Thames Valley [media and community outreach]; 81% in Anglia and Essex [media only]; and 85% in North Trent [community outreach only]). However, across all approaches post-campaign, the 55–74 age group was significantly more likely to have seen some type of cancer advertising than the 75+ age group.

Those respondents who said they were aware of any publicity relating to cancer were asked to recall what type of cancer was featured in the advertising or publicity they were referring to. Across all three approaches, bowel and breast cancer were the most common responses pre-campaign, which is unsurprising due to the recent national bowel cancer campaign that took place in August 2012 and the overlap of the breast cancer campaign. Recall of ovarian cancer was relatively low across each approach pre- and post-campaign and this did not increase significantly in any of the three pilot areas: in Yorkshire and Thames Valley (media and community outreach) from 9% pre-campaign to 11% post-campaign; Anglia and Essex (media only) from 11% to 17%; and in North Trent (community outreach only) from 4% to 9%. There was a significant increase in the recall of prostate cancer (from 10% to 30%) for Yorkshire and Thames Valley, which may be explained by a charity campaign focusing on prostate cancer taking place in March. Lastly, in the North Trent area (community outreach approach), there was a significant increase in those saying cancer in general following the campaign (17% to 29%), suggesting that the noisy background of campaigns taking place has possibly caused confusion about what advertising had been seen.

Respondents were also asked where they had seen the advertising or publicity about cancer. For each approach, TV advertising was the most frequently mentioned source of general cancer advertising pre- and post-campaign. The high recall of general cancer advertising from TV advertising (not a campaign source for this campaign) supports the view that cancer advertising recall was related to other campaigns, as mentioned above. Awareness of the ovarian campaign sources increased significantly in the Yorkshire and Thames Valley areas (media and community outreach approach; from 12% to 25%) pre- to post-campaign, but did not change significantly for the areas using the other two approaches.

Figure 19 – Source of cancer advertising

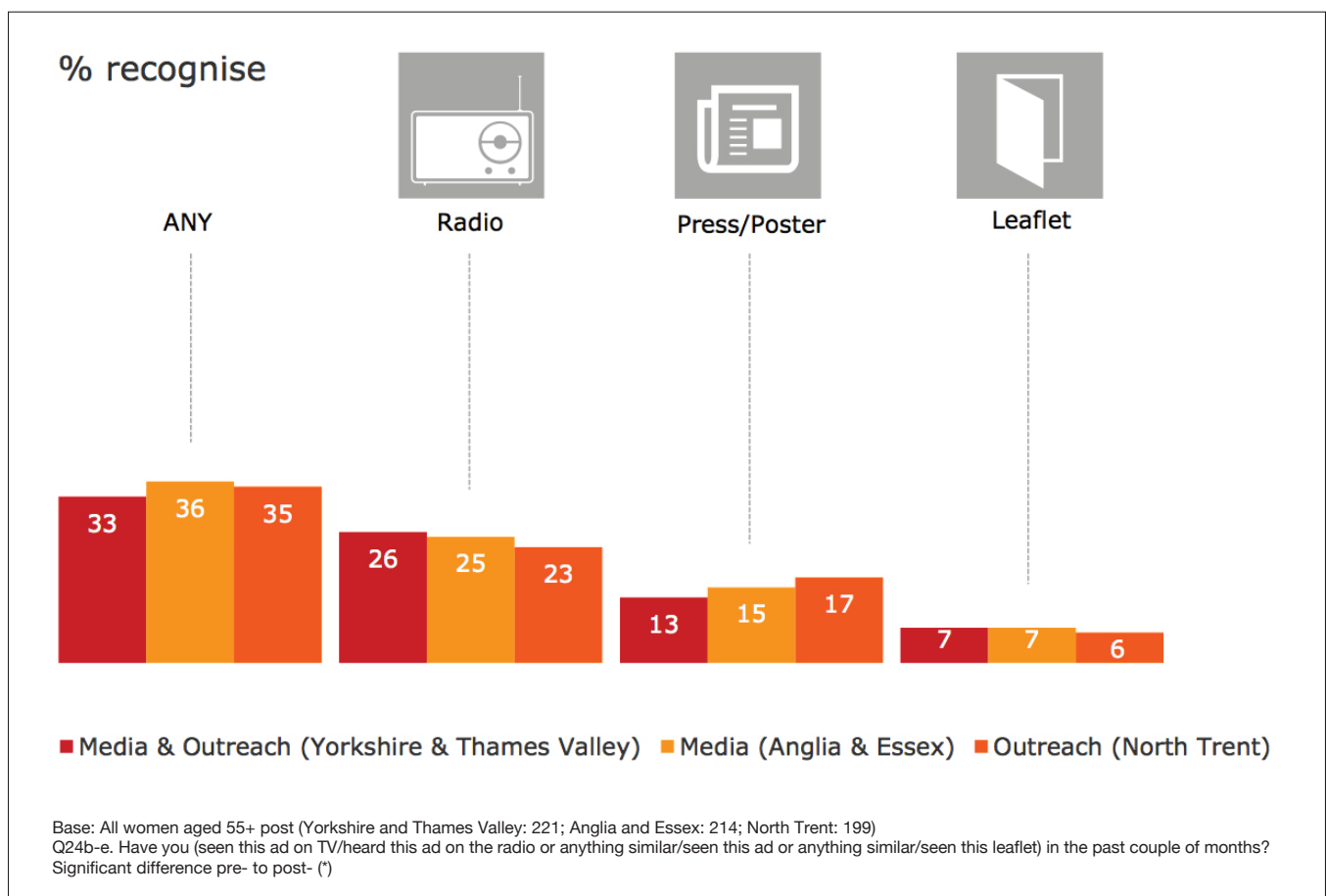




*Prompted recognition of campaign*

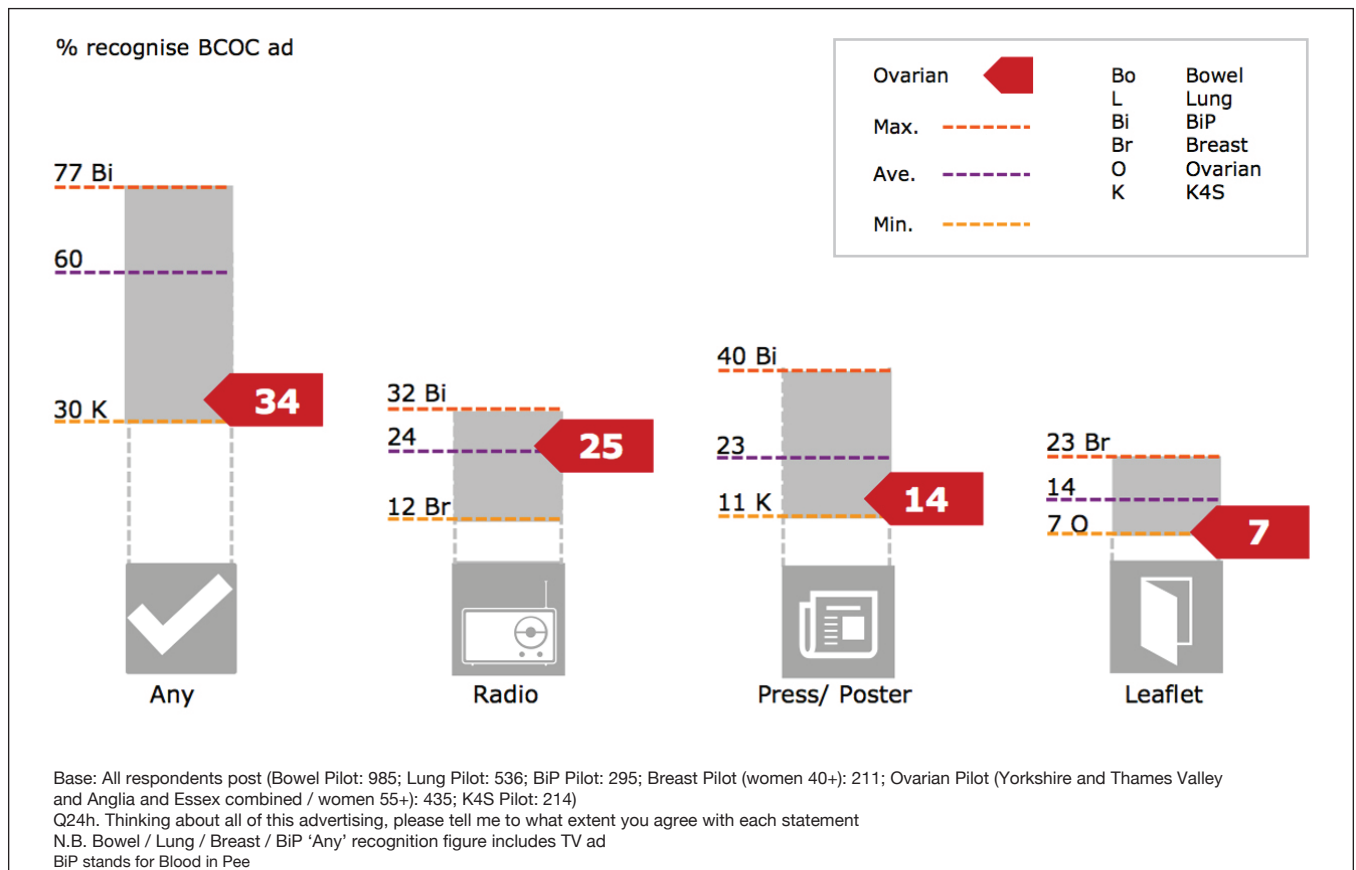
Post-campaign, respondents were shown various campaign executions and asked if they recognised them. Respondents were played the radio advert, shown two press adverts and shown the ovarian cancer leaflet. Across all three approaches, around a third of respondents recognised at least one of the campaign materials. This was driven by the radio advert, with around one in four recognising it. Across the Yorkshire and Thames Valley areas (media and community outreach approach), recognition of the radio advert was significantly higher for those aged 55–74 than those aged 75+.

**Figure 20 – Recognition of campaign materials**



Comparing the ovarian cancer campaign to other TV-led campaigns shows lower recognition of campaign material. Know 4 Sure was the only other campaign that did not contain a TV element and shows similar recognition levels of campaign materials to those in the ovarian cancer campaign.

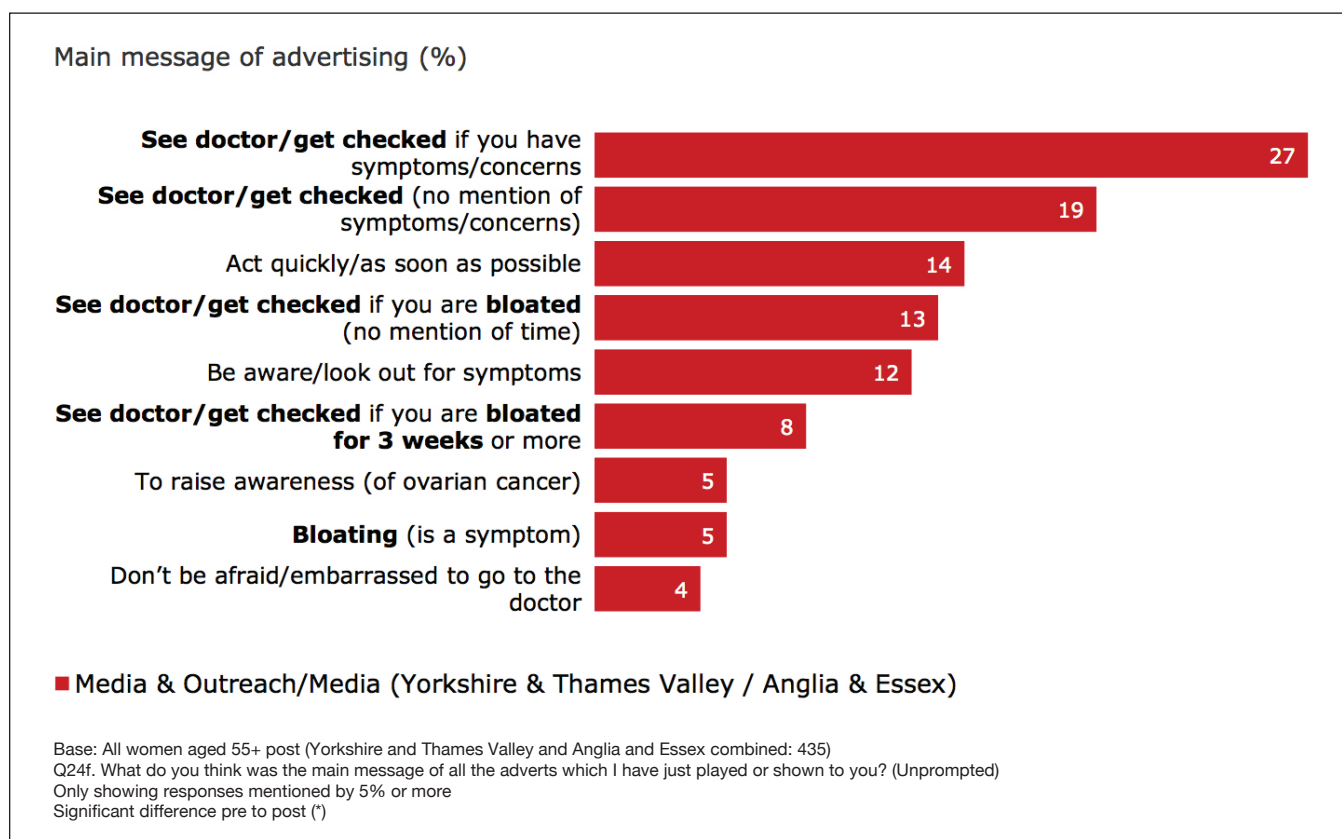
Figure 21 – Comparing recognition of campaign materials to other pilot campaigns



## Campaign communication

Post-campaign, after being shown or played the ovarian cancer materials, respondents were asked a series of communication statements about the adverts in order to assess the extent to which the adverts were able to communicate the intended messages. For the Yorkshire and Thames Valley and Anglia and Essex areas combined (the areas including media approaches), the main message that respondents agreed on was to ‘see your doctor/get checked if you have symptoms/concerns’ (27%), with one in five (19%) agreeing that you should ‘see your doctor/get checked’ with no mention of symptoms/concerns. Over one in four (26%) respondents agreed that the main message was in relation to bloating. Just over one in 10 mentioned seeing a doctor if you are bloated (13%) and slightly fewer (8%) mentioned seeing a doctor if you are bloated for three weeks or more, which was the key campaign message.

**Figure 22 – Main message of adverts for Yorkshire and Thames Valley and Anglia and Essex combined**



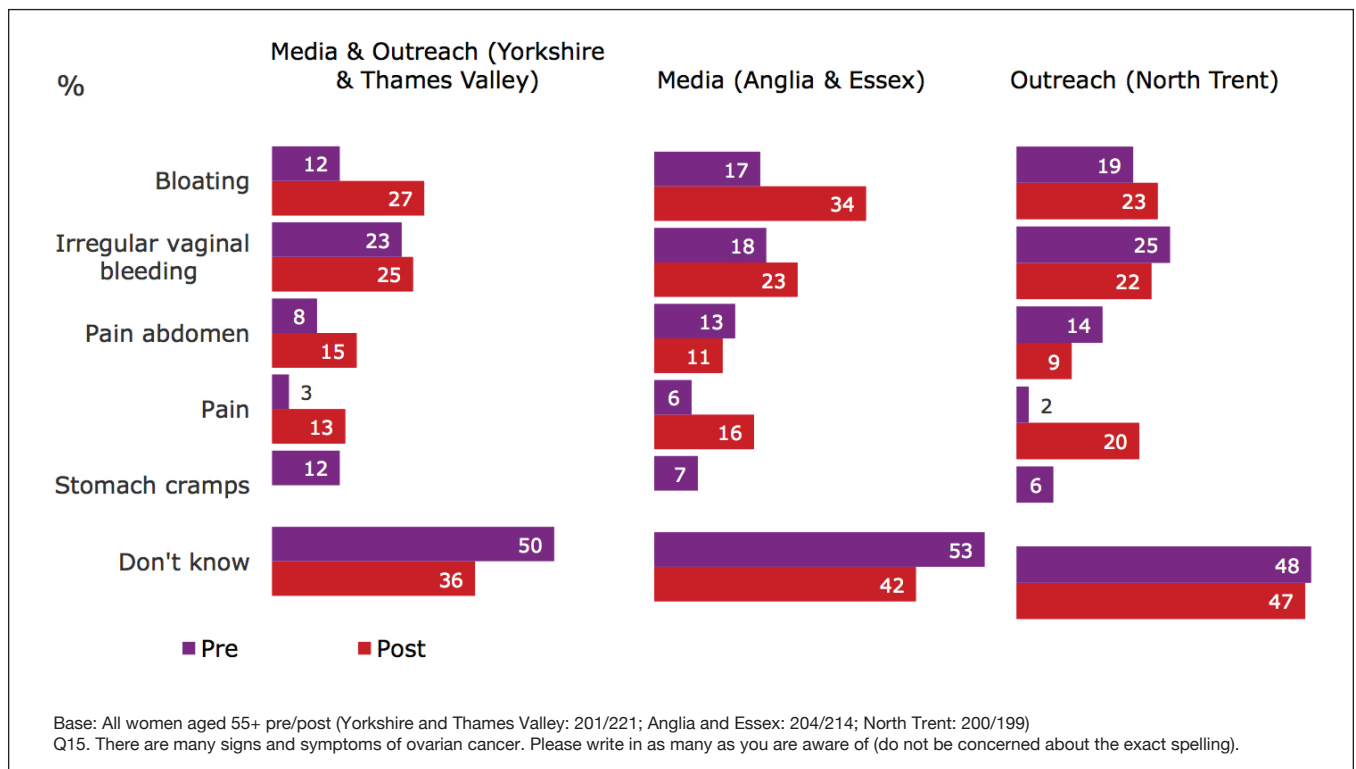
Nearly all respondents (more than nine in 10) across the areas agreed that ‘it is important that adverts like this are shown’ and more than eight in 10 agreed that ‘the advertising would make you more likely to go and see your GP if you had any symptoms’. A high proportion of people (around nine in 10) also agreed that ‘this advertising is clear and easy to understand’. Only around one in 10 were ‘fed up of seeing this kind of cancer advertising’, suggesting a positive outlook on the Be Clear on Cancer branding.

## Knowledge of signs and symptoms

### *Spontaneous awareness of signs and symptoms*

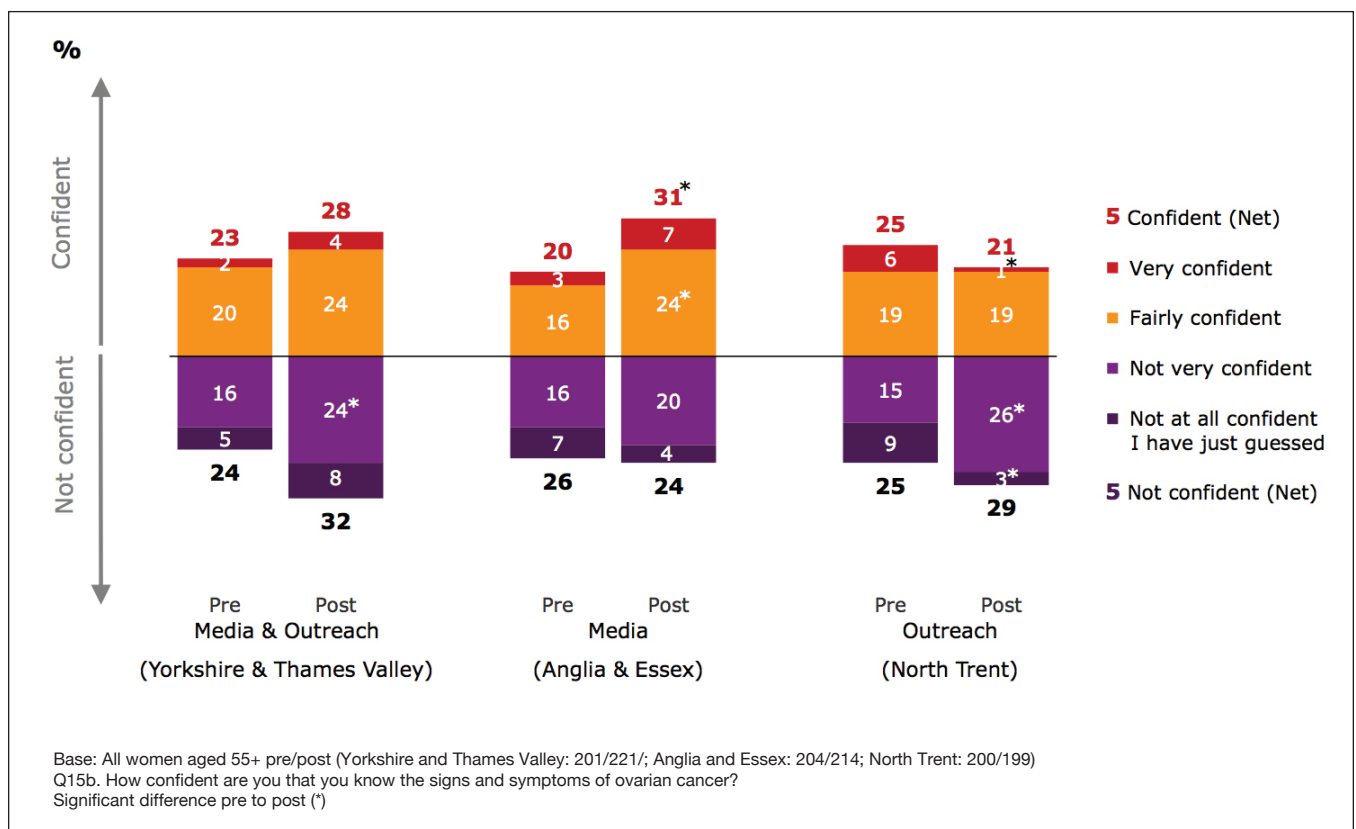
Respondents were asked, before they were shown the campaign materials, to spontaneously name as many signs and symptoms of ovarian cancer as they could. Following the campaign, there was a significant increase in respondents mentioning bloating as a sign and symptom of ovarian cancer pre- to post-campaign across the Yorkshire and Thames Valley areas (from 12% to 27%) and the Anglia and Essex areas (17% to 34%); the areas which included media in their campaign approaches. Correspondingly, there was a significant decrease in the proportion of respondents reporting that they did not know any symptoms in both these regions (from 50% to 36% in Yorkshire and Thames Valley; from 53% to 42% in Anglia and Essex), suggesting that the campaign did have some impact on symptom knowledge in the short-term. There was no significant change in North Trent. Bloating as a sign and symptom of ovarian cancer was also significantly higher among those aged 55–74, compared with 75+ year olds across all areas post-campaign.

**Figure 23 – Spontaneous knowledge of the signs and symptoms of ovarian cancer for the three approaches**



All respondents who could spontaneously describe a sign or symptom of ovarian cancer were then asked how confident they were in the responses they had given. Confidence describing a sign or symptom of ovarian cancer spontaneously across the three approaches, pre- and post-campaign, remained fairly low (with 20–31% being ‘fairly’ or ‘very’ confident). However, confidence significantly increased in Anglia and Essex (media only; from 20% pre-campaign to 31% post-campaign) with the apparent increase for Yorkshire and Thames Valley not statistically significant.

**Figure 24 – Confidence in the knowledge of signs and symptoms of ovarian cancer for the three areas**



**Prompted awareness**

To explore awareness further, respondents were shown a list of possible ovarian cancer signs and symptoms and asked to what extent they thought each was a warning sign. There was a three-fold significant increase in the proportion of respondents across Yorkshire and Thames Valley (media and community outreach) and nearly double in the Anglia and Essex (media only) areas saying that ‘feeling bloated most days for three weeks or more’, the key campaign message, was definitely a warning sign of ovarian cancer (from 10% to 29% in Yorkshire and Thames Valley; from 17% to 31% in Anglia and Essex). In North Trent (community outreach only), there was no significant change in the proportion saying ‘feeling bloated most days for three weeks or more’ was definitely a warning sign of ovarian cancer. However, in this area there was a significant decrease in respondents saying

that 'feeling bloated most days for three weeks or more' is probably not a warning sign of ovarian cancer (from 28% to 16%), and a significant increase in the proportion saying it is probably a warning sign (33% to 60%). However, the pre-campaign proportion responding that it is probably not a warning sign is maybe an anomaly as it is considerably lower than the pre-campaign in the other two areas, so the results should be treated with caution.

### Attitudes and beliefs

Respondents were presented with a number of agree/disagree statements concerning attitudes towards ovarian cancer, contacting their GP and early presentation. Results from these statements revealed positive beliefs about the benefits of early presentation across all the areas for the three approaches. Post-campaign, over nine in 10 respondents agreed that 'if ovarian cancer is diagnosed early the more likely it is to be treatable' and that 'going to my GP/doctor early with a symptom of ovarian cancer provides reassurance that the issue is now being addressed' across all three approaches.

Relatively few respondents agreed that they 'would be too embarrassed to talk about bloating with the doctor' (less than 5% across each area) and less than one in 10 agreed that their 'GP/doctor would be difficult to talk to about the signs and symptoms of ovarian cancer'.

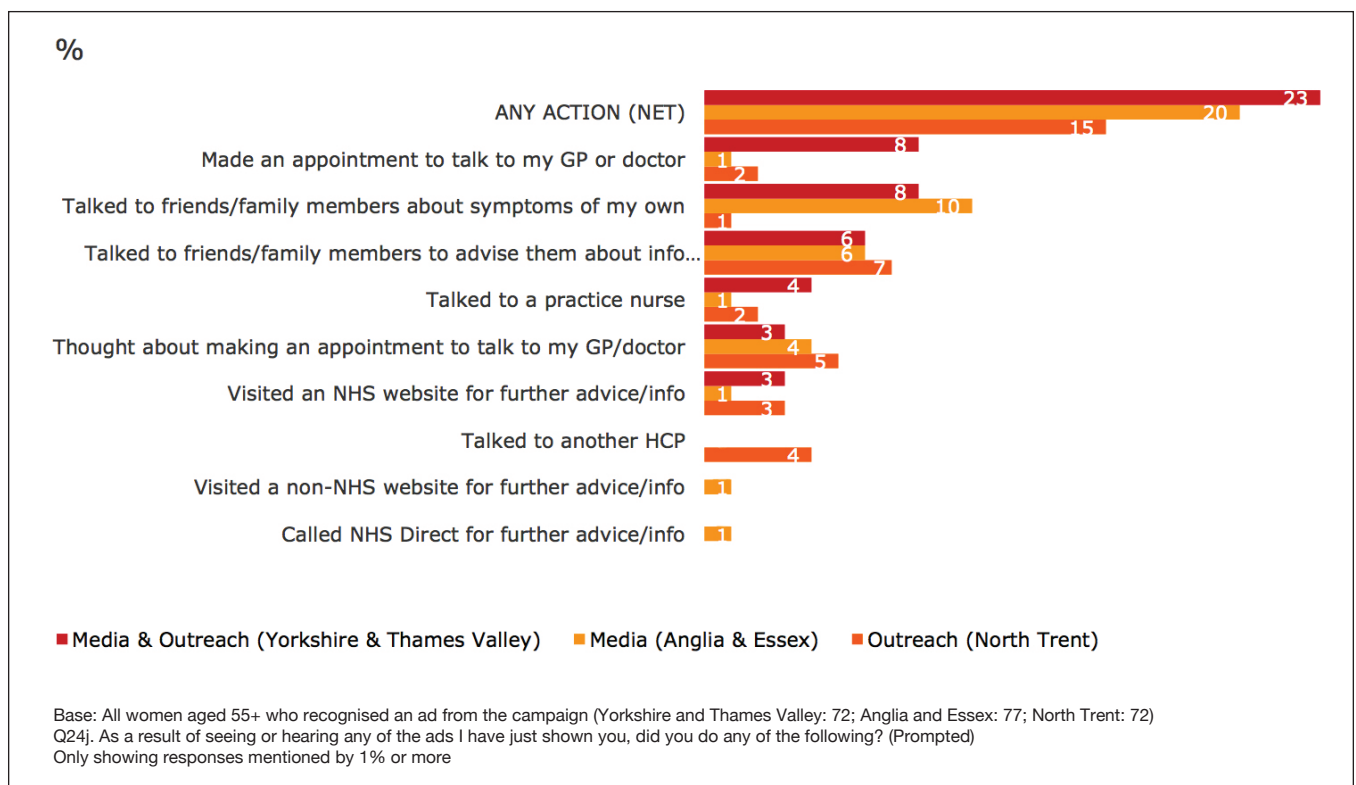
Nevertheless, there was still a proportion of people that 'would be worried about what the GP/doctor might find', with 42% agreeing in Yorkshire and Thames Valley, 36% in Anglia and Essex, and 48% in North Trent. Furthermore, around six in 10 respondents in Yorkshire and Thames Valley (58%) and North Trent (60%) agreed that they 'wouldn't think bloating on its own would be serious enough to be a sign of ovarian cancer', and 48% in Anglia and Essex.

Respondents were also asked: 'If you were feeling bloated most days, how long would you wait before you went to see your GP/doctor about it?'. The most common response pre- and post-campaign for Yorkshire and Thames Valley and Anglia and Essex was less than three weeks. However, the changes pre- to post-campaign were not significant: 59% to 64% in Yorkshire and Thames Valley, and 66% to 70% in Anglia and Essex. However, in North Trent the most common response pre-campaign was three weeks (35%) and less than three weeks post-campaign (40%, up significantly from 25% pre-campaign).

### Claimed action taken

Respondents who recognised any of the Be Clear on Cancer local pilot ovarian cancer advertising were asked if they had taken any action as a result of seeing an advert. The majority of respondents reported not having taken any action across all the areas for the three approaches. Out of the reported actions that were taken, there was variation across the approaches: actions across Yorkshire and Thames Valley (media and community outreach) were most likely to be to make an appointment to talk to their GP/doctor and talk to their friends/family about symptoms (both 8%); those in Anglia and Essex (media only) were also likely to talk to their friends/family about their own symptoms (10%); and the action most likely to be taken for those in North Trent (community outreach only) was talking to friends/family to advise them about information (7%).

Figure 25 – Actions taken as a result of the campaign



### 4.3. Conclusions

Pre- to post-campaign surveys highlight the level of 'background noise' that the local ovarian cancer campaign had to cut through. There was an increase pre- to post-campaign in respondents aware of general cancer advertising or publicity in the two pilot areas which included media in their campaign approach. However, there was no significant change in recall of specifically ovarian cancer advertising and publicity across all approaches. This compares with a significant increase in the recall of prostate cancer for Yorkshire and Thames Valley, which may be explained by a charity campaign focusing on prostate cancer taking place in March 2013. Furthermore, TV advertising was the most frequently mentioned source of general cancer advertising pre- and post-campaign, supporting the view that cancer advertising recall was related to other campaigns.

More than nine in 10 respondents across the areas agreed that 'it is important that adverts like this are shown' and more than eight in 10 agreed that 'the advertising would make you more likely to go and see your GP if you had any symptoms', showing public support for the campaign messages.

Media as a campaign approach proved successful with a significant increase in respondents spontaneously mentioning bloating as a sign and symptom of ovarian cancer and a corresponding decrease in the proportion of respondents reporting that they did not know any symptoms (in Yorkshire and Thames Valley and in Anglia and Essex). Bloating as a sign and symptom of ovarian cancer was also significantly higher among those aged 55–74 compared with 75+ year olds across all areas post-campaign.

Prompted awareness also significantly increased in areas with a media approach, with an increase in respondents reporting the key campaign message of 'feeling bloated most days for three weeks or more' as a definite warning sign of ovarian cancer.

There was also evidence to support an increase in positive beliefs about the benefits of early presentation across the pilot areas covering the three approaches, with over nine in 10 respondents post-campaign agreeing that 'if ovarian cancer is diagnosed early the more likely it is to be treatable' and that 'going to my GP/doctor early with a symptom of ovarian cancer provides reassurance that the issue is now being addressed'. However, the majority of respondents reported not having taken any action across the pilot area for the three approaches.



## 5. Presentations to primary care

In order to assess the impact of the local pilot ovarian cancer campaign on primary care, data on the number of presentations to general practice with the symptoms highlighted in the campaign were looked at.

### 5.1. Data and methods

The method of data collection was developed by the (former) National Cancer Action Team (NCAT) in collaboration with (former) Cancer Networks and Mayden (healthcare IT specialists). The methodology used was based on the approach developed to assess the impact of the regional bowel cancer awareness campaign pilot in January to March 2011 (Department of Health, 2012). Mayden were commissioned to extract and analyse the data.

GP practices from areas included in the three campaign approaches were invited to participate in data collection. Participating practices provided extracts of 'Read Code' data (a coded thesaurus of clinical terms by which clinicians can record patient findings; Heath and Social Care Information Centre [HSCIC], 2014) from their GP practice systems. When a patient visits their GP, the GP can record the symptoms reported by the patient for that visit using a Read Code. Read Codes related to the key campaign symptoms (unexplained bloating) were identified, along with codes for a number of control symptoms (urinary tract infection [UTI], knee pain, neck pain and shoulder pain) to assess any general changes in coding behaviour. Clinical input was sought for the selection of symptoms and their corresponding Read Codes.

Data from 411 GP practices across 12 Strategic Clinical Networks (SCNs, which mapped onto the former Cancer Networks shown in figure 26), were included in the evaluation; 108 from the area targeted for the campaign (the pilot area) and 303 included as a 'control' group for comparison. For the pilot area, the sample of GP practices was made up of practices from across the whole pilot area; data were not available to assess the different campaign approaches. Data were extracted for the period from 1 March 2010 to 31 May 2013.

**Figure 26 – Cancer Networks (former) and practices whose data were included in the analysis**

<b>Network</b>	<b>Practices in the pilot area</b>	<b>Practices outside the pilot area (control area)</b>
<b>North East, North Cumbria and the Hambleton and Richmondshire Districts of North Yorkshire</b>	–	46
<b>Greater Manchester, Lancashire and South Cumbria</b>	–	44
<b>Cheshire and Mersey</b>	–	8
<b>Yorkshire and the Humber</b>	24	–
<b>East Midlands</b>	–	1
<b>West Midlands</b>	–	28
<b>East of England</b>	56	–
<b>London*</b>	–	81
<b>South East Coast</b>	–	34
<b>Thames Valley</b>	28	–
<b>Wessex</b>	–	6
<b>South West</b>	–	55
<b>Total</b>	<b>108</b>	<b>303</b>

\* London SCN not accountable for cancer.

For the analysis, the number of visits by patients with the specified campaign symptom of unexplained bloating was calculated for the eight weeks prior to the campaign ('pre-campaign': 18 November 2012 to 13 January 2013), the nine weeks during the campaign ('campaign-live': 14 January 2013 to 17 March 2013) and the eight weeks following the campaign ('post-campaign': 18 March 2013 to 12 May 2013) and the corresponding weeks in 2010/11 and 2011/12 covering the pre-, live-, and post-campaign periods for comparison. Data for the control symptoms were also analysed for the same periods for comparison.

The percentage change in the number of GP presentations during the pre/live/post campaign period in the campaign year compared with the same period in the previous year was calculated and significance tested using a likelihood ratio test of two counts, assuming constant populations across the periods.

Unless otherwise specified, numbers of visits were adjusted for bank holidays. Although data were collected on all patients, the focus here is on those aged 50 and over as this was the target age range.

Results were also available for a breakdown by age group of patients and by deprivation based on the location (Lower Super Output Area; LSOA) of the GP practice (using the Index of Multiple Deprivation [IMD] 2010). The GP practice IMD is estimated by taking a weighted average of the IMD scores for each LSOA in which a given practice has registrations, as provided by HSCIC and analysed by Mayden.

## 5.2. Results

During the campaign weeks of the local pilot, there was a 21.9% increase in GP visits for unexplained bloating within the sample of GP practices in the pilot area for patients aged 50 and over, compared with the same period in the previous year ( $p=0.047$ ). The increase in activity was equivalent to 0.04 additional visits per practice, per week. The post-campaign period also showed an increase in the number of GP visits within the pilot area compared with the same period in the previous year (30.0%;  $p=0.012$ ). There was no significant change during the pre-campaign weeks compared with the same period in the previous year (-9%;  $p=0.413$ ).

**Figure 27 – Visits per practice per week for unexplained bloating symptoms in the pilot area adjusted for bank holidays (patients aged 50+)**

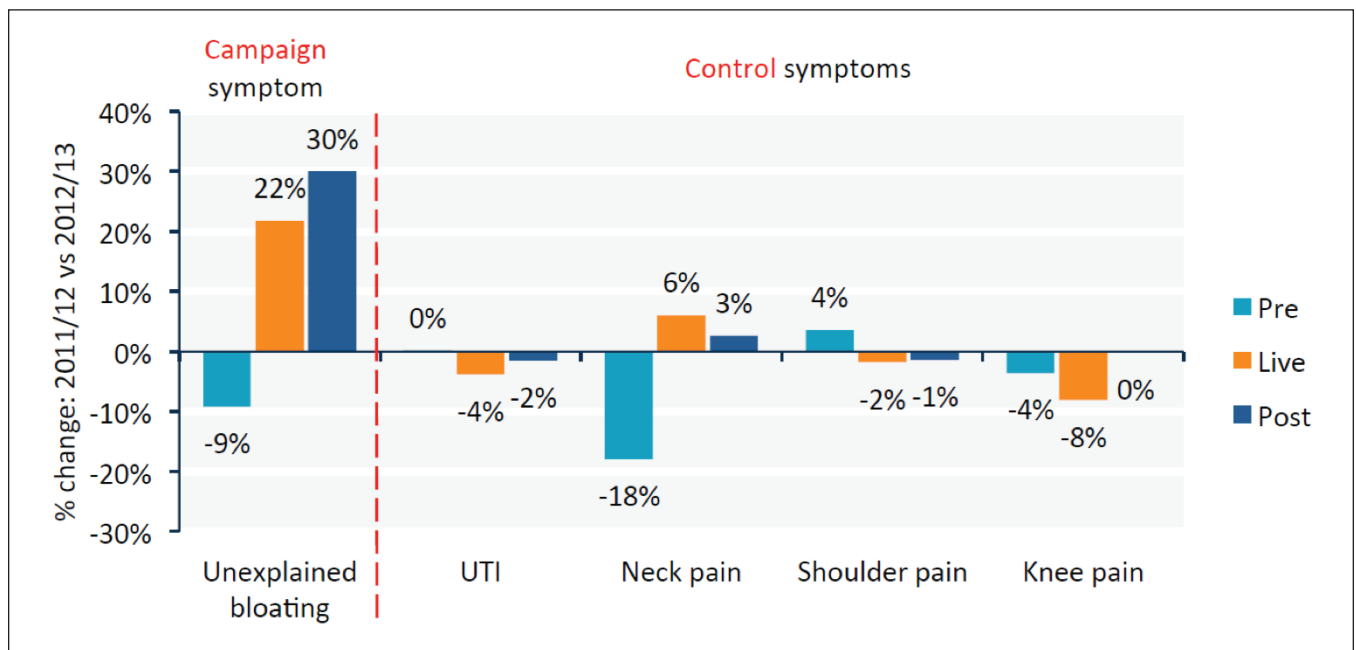
Evaluation period	GP visits			Difference			
	2010/11	2011/12	2012/13	2010/11 versus 2012/13 Visits	% Diff	2011/12 versus 2012/13 Visits	% Diff
Pre-campaign	0.11	0.19	0.17	0.06	51%	0.02	-9%
Live-campaign	0.19	0.19	0.23	0.04	23%	0.04	22%
Post-campaign	0.21	0.20	0.25	0.04	20%	0.05	30%

**Figure 28 – Actual number of visits for unexplained bloating symptoms for the GP practices in the pilot area (unadjusted, patients aged 50+)**

Evaluation period	GP visits			Difference	
	2010/11	2011/12	2012/13	2010/11 versus 2012/13	2011/12 versus 2012/13
Pre-campaign	92	153	139	51%	-9%
Live-campaign	181	183	223	23%	22%
Post-campaign	170	160	208	22%	30%

Figure 29 shows the change during the pre-, live- and post-campaign periods compared with the same period in the previous year for number of GP visits for the control symptoms in the pilot area. The campaign period shows marginal changes compared with the same period in the previous year, with changes varying from 6.1% increase in neck pain to a decrease of 8.1% in knee pain; but the only significant change evident was for knee pain ( $p=0.028$ ). For the pre-campaign period, but the only significant change was a 17.9% decrease in neck pain ( $p=0.003$ ) when compared with the same period in the previous year.

**Figure 29 – Percent change in GP visits between 2011/12 and 2012/13 for control symptoms in the pilot area, adjusted for bank holidays (patients aged 50+)**



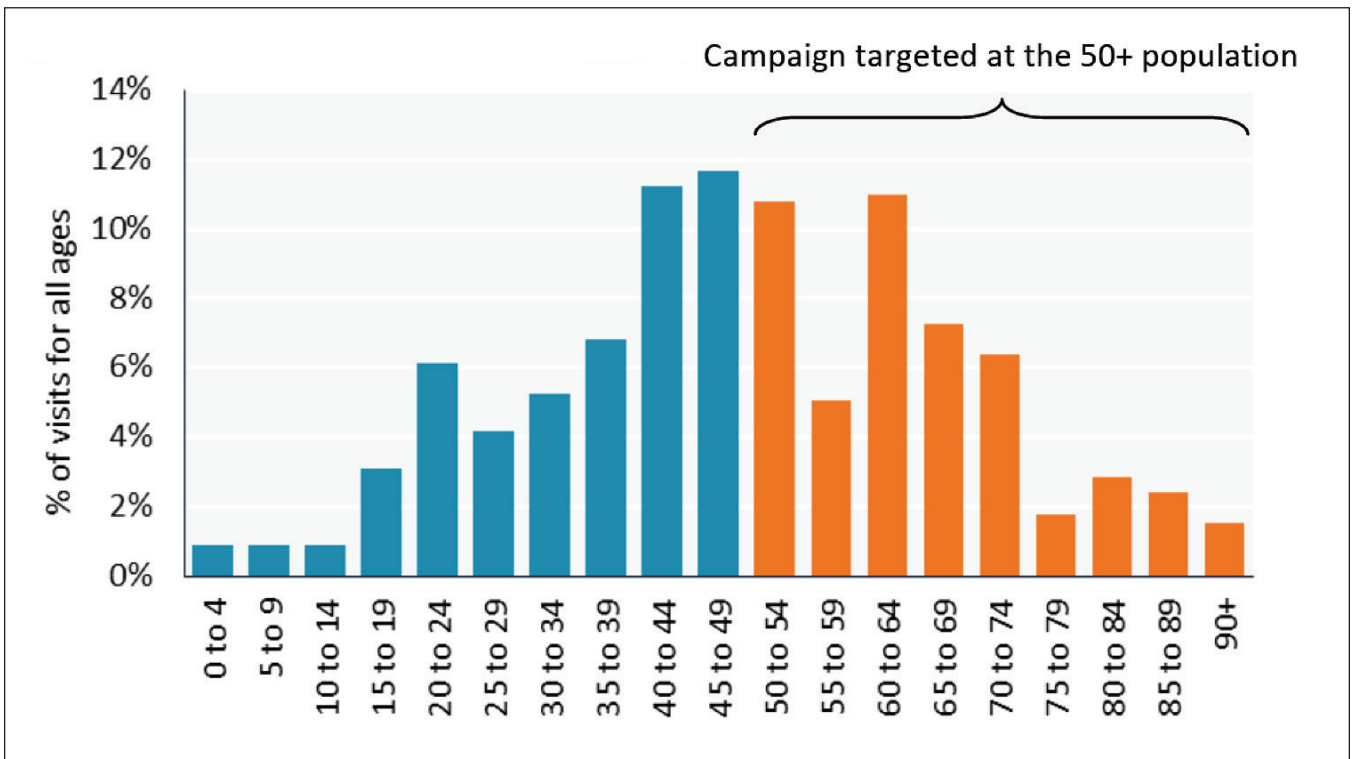
For a comparison with activity in control practices, during the live campaign weeks there was no significant change in GP visits for unexplained bloating within the sample of GP practices in the control area, compared with the same period in the previous year (non-significant 8% decrease;  $p=0.194$ ).

**Figure 30 – Actual number of visits for unexplained bloating symptoms for the GP practices in the control area (unadjusted, patients aged 50+)**

Evaluation period	GP visits			Difference	
	2010/11	2011/12	2012/13	2010/11 versus 2012/13	2011/12 versus 2012/13
<b>Pre-campaign</b>	325	369	356	10%	-4%
<b>Live-campaign</b>	448	519	478	7%	-8%
<b>Post-campaign</b>	483	480	479	-1%	0%

In the pilot area, nearly one in two (49%) of all visits for unexplained bloating during the campaign period were by those aged 50 and over (the target age group). By five-year age group, the highest proportion of visits for the key campaign symptom was by those aged 45–49 (11.6%). When comparing the actual number of visits during the campaign period with numbers in the same time in the previous year, the largest increase in GP visits was for those aged 60–64 (0.03 additional visits per practice per week).

**Figure 31 – Proportion of GP visits by age group during the live campaign weeks in 2013 for unexplained bloating**



Comparing practices with a level of deprivation above the national average (28/114 practices; most deprived) to those below the national average (least deprived) suggested no significant difference between the two groups for the change in GP visits during the campaign period in 2013 compared with the same period in 2012.

### 5.3. Conclusions

Overall, in the pilot area there was an increase in GP visits by patients with unexplained bloating symptoms during the campaign weeks compared with the same period the previous year, and compared with the eight weeks pre-campaign, which is suggestive that the campaign had an impact. Only marginal changes were evident for control symptoms with no significant increases in the pre- or live-campaign period further suggesting the campaign impacted on GP visits. The increase in visits appeared to extend into the weeks after the campaign had ended.

Nearly one in two GP visits during the campaign period were for those aged 50 and over (the target age group). However, there was an uplift in visits compared with the previous year for younger age groups as well as those aged 50 and over.

This was an attempt to quantify the impact of the campaign on GP practices. Inevitably this can only be an estimate, as practices' size and demographics vary considerably and variation in the quality of Read coding may mean that this study underestimates impact. However, based on this analysis, the impact of the increased activity following the campaign launch translated into an average of 0.04 additional visits per practice per week.



## 6. National Cancer Waiting Times Monitoring Dataset

### 6.1. Data and methods

The two week wait (2WW) standard for suspected cancer referrals was introduced by 2000 for all cancers, following the White Paper '*The new NHS*' (Department of Health, 1997), and stated that there should be a maximum two week wait for an outpatient appointment for urgent referrals where cancer is suspected. The preferred terminology for referrals from primary care to secondary care made under the 2WW criteria is 'urgent GP referral for suspected gynaecological cancer' and this term will be used in the remainder of the report.

Data on urgent GP referrals for suspected gynaecological cancers were obtained and analysed by Public Health England's NCIN, using data from the National Cancer Waiting Times Monitoring Dataset provided by NHS England.

Referrals for suspected gynaecological cancer are intended to relate to the following suspected cancers of the female genital organs (ICD-10: C51-C58): cervical, ovarian, uterine, placental, vaginal and vulval cancers.

Data were provided for the pilot area<sup>1</sup> defined by the former Cancer Network areas, and were compared with a control area (England excluding the local ovarian cancer pilot area, the Be Clear on Cancer local 'Know 4 sure' pilot area and the areas involved in a 'Cancer Decision Support Tool' pilot project).

Numbers of urgent GP referrals for suspected gynaecological cancer and conversion rates (percentage of urgent GP referrals for suspected gynaecological cancer resulting in a diagnosis of gynaecological cancer) were analysed for the months of January – April 2013 (the months of the campaign and the month following) and May – August 2013, and compared with the same period in the previous year.

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<sup>1</sup> Note that the Mount Vernon Cancer Network area was included in the pilot area in this analysis.

Analysis was also provided for a breakdown of the pilot area into four<sup>7</sup> according to the campaign approach, by the former Cancer Networks areas as follows:

Approach	Area
<b>Pilot area one (M, P &amp; O)</b>	Yorkshire (including North East Yorkshire and Humber) and Thames Valley
<b>Pilot area two (M &amp; P)</b>	Anglia and Essex
<b>Pilot area three (O)</b>	North Trent
<b>Pilot area four (M, P &amp; O)</b>	Mount Vernon

Where: **M** = media, **P** = press, **O** = community outreach

Changes in referrals across periods were tested for statistical significance using rate ratios (populations were assumed to remain constant across periods). Conversion rates were tested for significance using the two-sample test of proportions.

## 6.2. Results

### Urgent GP referrals for suspected gynaecological cancer

The number of urgent GP referrals for suspected gynaecological cancers increased significantly in the pilot area overall between January and April 2012, and January and April 2013 (8.1%). However, there was also a similar significant increase in the control area (9.0%). Within the breakdown of the pilot area by campaign approach type, there were significant increases in referrals in pilot area one (Yorkshire, including North East Yorkshire and Humber, and Thames Valley; 10.4%), two (Anglia and Essex; 5.2%) and four (Mount Vernon); with the largest percentage increase in the latter at 14.2%.

By age group, across the overall pilot area there were significant increases in urgent GP referrals for suspected gynaecological cancers for women in their 40s (10.9%), 50s (11.5%) and 60s (8.0%).

Looking at the period between May and August 2013 (the months after the campaign period) compared with the same period in the previous year, there was a slightly, but not significantly, larger increase in urgent GP referrals in the pilot areas (9.5%) compared with the control areas (6.8%). Of the four specific pilot areas, the largest increase (12.4%; significant) was observed for area one (Yorkshire, including North East Yorkshire and Humber, and Thames Valley). The only other significant increase was in pilot area two (Anglia and Essex; 9.1%). By age, overall there were also some significant increases, particularly for women in their 40s (13.0%) and 50s (13.6%).

### Conversion rates following an urgent GP referral for suspected gynaecological cancer

For January to April 2013, compared with January to April 2012, there was a significant decrease in conversion rate for suspected gynaecological cancer referrals of 0.8 percentage points in the pilot area overall. However, in 2013, the conversion rate was consistent with that in the control area. There was a significant decrease in conversion rate for campaign area one (Yorkshire, including North East Yorkshire and Humber, and Thames Valley; 1.6 percentage points), although this area had the highest conversion rate in 2012, with the 2013 rate being more consistent with other areas.

There were no significant changes in the conversion rates by different age groups.

Figure 32 – Conversion rates for urgent GP referrals for suspected gynaecological cancers, with change, January – April 2012 and January – April 2013

	January – April							
	2012			2013			% point change	p-value
	Conv. rate	LCL	UCL	Conv. Rate	LCL	UCL		
<b>Pilot area one (M, P &amp; O)</b>	7.5%	6.7%	8.4%	5.8%	5.2%	6.6%	-1.6	0.004
<b>Pilot area two (M &amp; P)</b>	6.6%	5.8%	7.6%	6.2%	5.5%	7.1%	-0.4	0.528
<b>Pilot area three (O)</b>	7.1%	5.7%	8.7%	7.4%	6.0%	9.0%	0.3	0.773
<b>Pilot area four (M, P &amp; O)</b>	6.1%	4.6%	8.1%	6.1%	4.7%	7.8%	-0.1	0.947
<b>Pilot areas (Total)</b>	7.0%	6.5%	7.6%	6.2%	5.7%	6.7%	-0.8	0.031
<b>Control area</b>	5.7%	5.2%	6.2%	5.8%	5.4%	6.3%	0.2	0.646

95% confidence intervals are provided (**LCL**: lower confidence limit, **UCL**: upper confidence limit)  
**M** = media, **P** = press, **O** = community outreach

The May to August 2013 period showed no significant changes in conversion rates for either the pilot or control areas, or for the specific pilot areas.

**Figure 33 – Conversion rates for urgent GP referrals for suspected gynaecological cancers, with change, May – August 2012 and May – August 2013**

	May – August							
	2012			2013			% point change	p-value
	Conv. rate	LCL	UCL	Conv. Rate	LCL	UCL		
<b>Pilot area one (M, P &amp; O)</b>	6.4%	5.7%	7.2%	5.7%	5.0%	6.4%	-0.7	0.162
<b>Pilot area two (M &amp; P)</b>	6.9%	6.1%	7.8%	6.4%	5.6%	7.2%	-0.6	0.357
<b>Pilot area three (O)</b>	5.5%	4.4%	6.9%	5.8%	4.7%	7.1%	0.3	0.760
<b>Pilot area four (M, P &amp; O)</b>	5.7%	4.3%	7.5%	6.6%	5.2%	8.4%	0.9	0.437
<b>Pilot areas (Total)</b>	6.4%	5.9%	6.9%	6.0%	5.6%	6.5%	-0.4	0.264
<b>Control areas</b>	6.2%	5.8%	6.7%	5.9%	5.5%	6.4%	-0.3	0.331

95% confidence intervals are provided (**LCL**: lower confidence limit, **UCL**: upper confidence limit)  
**M** = media, **P** = press, **O** = community outreach

### 6.3. Conclusions

Overall, there were similar increases in the number of urgent GP referrals for suspected gynaecological cancers in the local pilot areas as in the control areas during January to April 2013 compared with the same period in the previous year. This was also evident in the May to August period, suggesting that the campaign did not have an impact on the number of referrals for suspected gynaecological cancers.

However, there is some evidence that the campaign impacted on the target audience, with significant increases in urgent GP referrals for women in their 50s and 60s, but also younger women – those in their 40s.

Although there was a significant decrease in the conversion rate during January to April 2013 compared with the same period in the previous year for the pilot area, this was consistent with the control area. There was no significant change in either the pilot or control area during May to August 2013 compared with the same period the previous year.

## 7. Diagnostics

To investigate whether the campaign could have impacted on the number of diagnostic tests carried out for suspected ovarian cancer, three datasets were analysed: Diagnostic Waiting Times and Activity DM01, Diagnostic Imaging Dataset (DID), and Pathology.

### 7.1. Data and methods

#### Diagnostic Waiting Times and Activity Data Set – DM01

Data on non-obstetric ultrasound (ultrasounds that are not related to childbirth) were collected from the DM01 obtained from NHS England. The DM01 reports diagnostic waiting times (time from referral to diagnostic procedure), as well as the number of tests completed, for the end of each month for diagnostic procedures that take place within the NHS.

For a preliminary investigation into the impact of the campaign on non-obstetric ultrasound, data available for England as a whole for January 2011 to June 2013 (the latest data available at the time of analysis) were considered.<sup>2</sup> However, it is unlikely that any effects at a local level would be seen in this national data, or any effect could simply be due to a national trend rather than the impact of the local pilots. Additionally, information on the purpose of the procedure is not collected and non-obstetric ultrasound is a large category (the tests could be for a range of indications and body sites) so the results should be interpreted with caution. Results for the months of January to March 2013 were compared with results for the same period in the previous two years (January to March 2012 and January to March 2011). The months following the campaign (April to June 2013) were also assessed.

#### Diagnostic Imaging Data Set – DID

Further diagnostic imaging data were extracted from the DID,<sup>3</sup> provided by NHS England, for a preliminary analysis. The DID records more detail on diagnostic procedures than DM01, for instance it includes the body site (however, as mentioned above, information on the purpose of the procedure is still not collected in the DID). Data were extracted for the number of imaging tests that could be associated with diagnosing ovarian cancer carried out within 57 clinical commissioning groups (CCGs) in the pilot area, and within control CCGs (CCGs in England outside of the pilot area).

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<sup>2</sup> Data were available from the NHS England website: <http://www.england.nhs.uk/statistics/statistical-work-areas/diagnostics-waiting-times-and-activity/monthly-diagnostics-waiting-times-and-activity/> (Data were accessed in September 2013)

<sup>3</sup> The DID is a central collection of detailed information about diagnostic imaging tests carried out on NHS patients, extracted from local radiology information systems and submitted monthly (HSCIC, <http://www.hscic.gov.uk/did>, data were accessed in April 2014).

For the preliminary analysis carried out by the DID team, imaging activity was observed for the campaign period (January to March 2013) and compared with April to December 2012. The DID only includes data from April 2012 onwards, so comparisons with pre-April 2012 are not possible.

### Pathology – CA125

CA125 is a protein found in the blood. Some ovarian cancer cells produce CA125, so a high level of CA125 in the blood may indicate ovarian cancer. Therefore clinicians may request a CA125 blood test for suspected ovarian cancer. They are also used for the monitoring of treatment for ovarian cancer.

All results for routine blood tests ordered in primary care for NHS England are reported electronically using messages sent via the NHS Data Transfer Service (DTS). Messages were captured off the DTS for a period during May and June 2011, 2012 and 2013 as part of an audit for data quality sponsored by DH and governed by the Royal College of Pathologists (which was the original purpose of this data collection). These messages were processed in a secure centre and a de-identified extract made for analysis (in compliance with NHS coding standards). A subset of these results was extracted to analyse the numbers of CA125 tests carried out.

Data on CA125 tests were aggregated for 32 primary care trusts (PCTs) in the pilot area (pilot PCTs) and for 103 control PCTs in England. Data were collected over a period of approximately three weeks within May to June each year from 2011 to 2013. It is important to note that this period is two months after the end of the campaign and hence analysis can only observe the potential residual effects of the campaign.

The number and rate (per 1,000 female population) of CA125 tests were calculated for both the pilot and control PCTs and data were compared across the years from 2011 to 2013. To calculate rates, female population statistics by PCT were taken from the HSCIC's Indicator Portal which uses the Office for National Statistics census data. As 2013 populations were unknown at the time of analysis, projecting these using linear trends was explored, but due to the high variability across the years this was not possible. Instead, constant populations from 2012 have been assumed (and this assumption was also implied for statistical significance testing).

Likelihood ratio tests of two counts were used for significance testing across years. Poisson regression models were used for significance testing across areas, i.e. pilot PCTs against control PCTs.

## 7.2. Results

### Diagnostic Waiting Times and Activity Data Set – DM01

Overall, the local ovarian cancer campaign seemed to have little impact, if any, on non-obstetric ultrasound activity around the time of the campaign at the national level. However, it should be reiterated that limited conclusions can be drawn from these data because any effects seen at a local level may not be seen in these national data. It would be necessary to compare those areas that were involved in the local ovarian cancer pilot with those that were not, to better assess whether the campaign could have impacted on non-obstetric ultrasound activity.

### Diagnostic Imaging Data Set – DID

The preliminary analysis suggested that the local ovarian cancer pilot campaign did not impact on imaging activity. However, further analysis is required.

### Pathology – CA125 test

For the period in May to June, the rate of CA125 tests per 1,000 females declined from 2011 to 2012, and then rose from 2012 to 2013, across both the pilot PCTs and control PCTs (figure 34). Between May and June 2012, and May and June 2013, the number of CA125 tests significantly increased by 36% ( $p < 0.001$ ) in the pilot area and by 26% in the control area ( $p < 0.001$ ). The increase in the pilot areas was significantly larger ( $p < 0.001$ ) than in the control areas. The analysis does not take account of differences between the years in working days during the period of around three weeks (there was an extra bank holiday in June 2012 for the Queen’s Jubilee), so the percentage increase between 2012 and 2013 may be an overestimate.

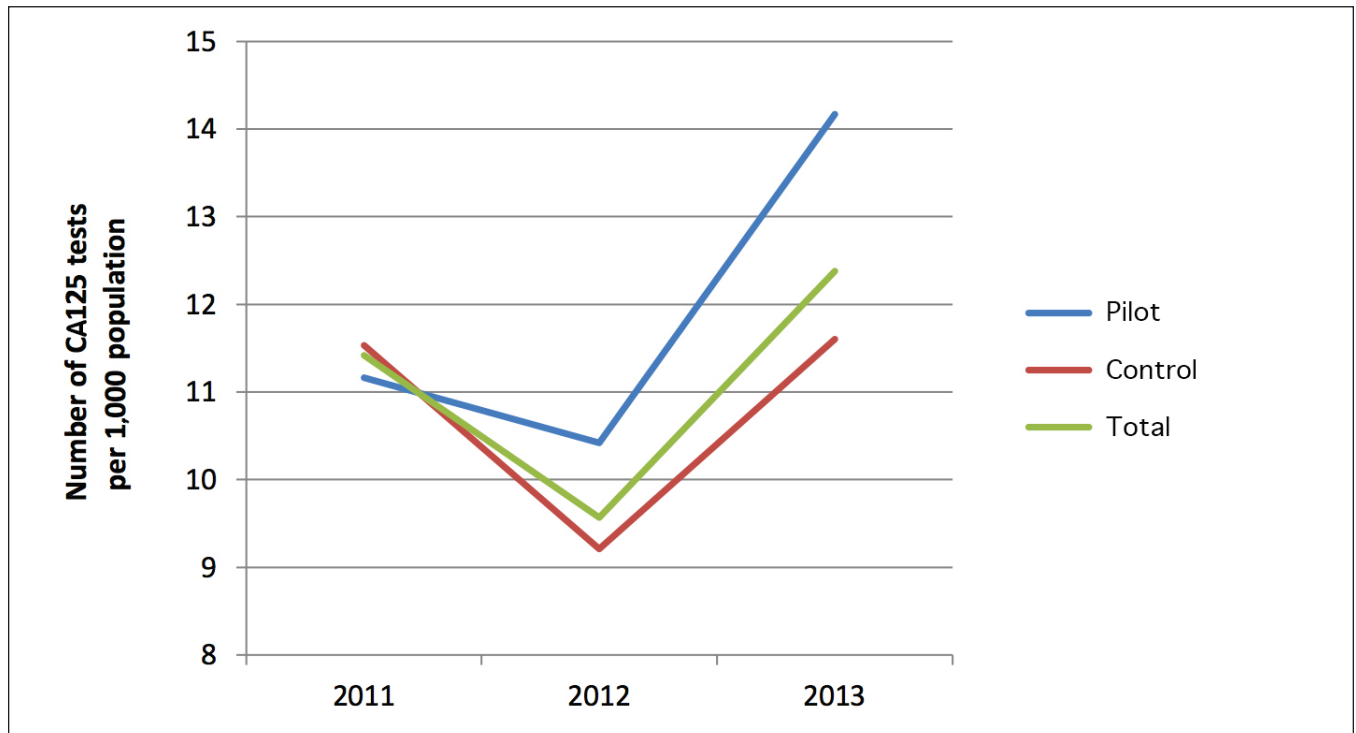
**Figure 34 – Number of CA125 tests carried out during May – June 2012 compared with May – June 2013 for pilot and control areas**

	Pilot area			Control area		
	May–June 2012	May–June 2013	Percent change	May–June 2012	May–June 2013	Percent change
<b>Number of CA125 tests</b>	79,110	107,606	+36%*	161,951	204,131	+26%*

\*Statistically significant ( $p < 0.05$ )



Figure 35 – Rate of CA125 tests performed per 1,000 population across the years 2011–2013, by pilot area, control area and total



### 7.3. Conclusions

Results from the available diagnostic datasets are limited and preliminary; hence, results should be interpreted with caution.

Although national results are available for non-obstetric ultrasound activity, the impact of the local ovarian cancer campaign are only indicative and are inconclusive.

Initial results on imaging activity suggest the campaign had little effect, but further analysis of the data is required. However, there are limitations with the dataset. For instance, no data is available before April 2012 for the DID, so there is only a limited time period over which data are available. Year-on-year comparison of January to March 2012 to January to March 2013 (as has been done with other metrics to take account of any seasonal variation) are not possible. Additionally, the DID does not provide any information on the purpose of the procedure so it is not known which procedures were used to help diagnose ovarian cancer. These limitations mean that a more detailed evaluation of the data is challenging.

There was, however, a significantly higher increase in the number of CA125 tests in May to June 2013, compared with May to June 2012 in the pilot area compared with the control area, suggesting some impact on diagnostic tests following the campaign. However, this period was a few months after the campaign finished, making an association with the campaign less clear. Additionally, the purpose of the CA125 tests, whether diagnostic or for treatment monitoring, is not known.

## 8. References

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