

ShowCase

Early Detection of Lung Cancer

Topic:

Cancer

Organisation:

Doncaster PCT

Location:

Doncaster (Yorkshire and Humber)

Dates:

Phase One – 2007 to 2008; Phase Two – 2009

Budget:

Approximately £330,000

Contact:

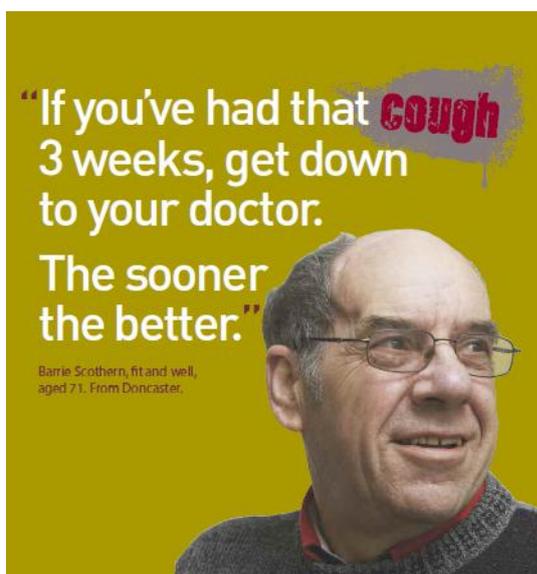
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Overview

Doncaster PCT's Early Detection of Lung Cancer intervention aimed to increase early detection of the disease in the area, by increasing the number of people with potential symptoms (namely a cough that lasts more than three weeks) presenting to their GP.

The project was piloted in six deprived communities in the city and featured two elements:

1. 'Push' – A public awareness campaign to raise awareness of the symptoms of lung cancer, the benefits of early detection, and encourage the target population to request an x-ray from their GP
2. 'Pull' – Preparing healthcare professionals for the initiative by sharing insights, providing training and supporting capacity management in GP surgeries

2009 results:

- Increased intention to act (visit their GP) if people had a 'bad cough', from 82 per cent to 87 per cent
- Increase in number of people who would visit their GP and ask for a chest x-ray, from 54 per cent to 67 per cent
- Targeted practices increased their chest x-ray referral rates by 22 per cent
- Percentage of lung cancers diagnosed early (Stage 1 or 2) increased from 21 per cent pre-campaign to 23 per cent post-campaign



Lung cancer is the most common cancer in the world, with 1.61 million new cases annually. In the UK it is the second most common form of cancer and more than 40,806 new cases were diagnosed in 2008. National statistics show the disease to be strongly associated with social deprivation, with a greater incidence in both males and females from the most disadvantaged areas of the country.

According to the 2007 Indices of Deprivation, Doncaster is ranked 41st (using an average score) amongst the most deprived of the 354 local authorities (LAs) in England. Unemployment is higher in the area than the national average and educational attainment lower.

The people of Doncaster also experience higher death rates and suffer more ill health than people in most other areas of the country. In particular, Doncaster has a high mortality rate from cancer and chronic lung disease. The impact of lung cancer in the city is a key contributor to significant health inequalities in the area. In response to this, Yorkshire and Humber Strategic Health Authority (SHA) made addressing health inequalities a priority. This was reflected locally in the 2007 Reducing Health Inequalities: Achieving Early Impact Strategy.

The Doncaster Primary Care Trust (PCT) team were charged with the task of improving life expectancy locally. One approach was by facilitating the early detection of lung cancer through improved awareness of symptoms and service modification.

Early presentation and assessment is essential for effective lung cancer treatment, as there is

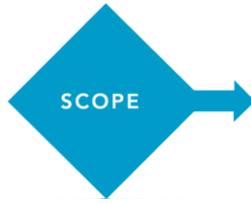
a small window of opportunity where patients can be offered surgery. This is the main curative treatment and 20 to 30 per cent of patients are potentially eligible for the procedure. Unfortunately, less than half of those eligible actually receive this form of treatment in England.

The potential long-term survival rates for individuals with Stage 1 lung cancer who undergo radical surgery can be as high as 80 per cent. This is much higher than the national survival rate of 27 per cent for males and 30 per cent for females, at 1 year, and just 8 per cent at 5 years.

Doncaster PCT therefore built on work conducted by a pilot scheme in the Carcroft area of Doncaster during 2007 to produce a campaign that would encourage people to visit their GP if they had had a cough for longer than three weeks. The intervention ran with the strap-line: 'We're waiting, you shouldn't'. This project was the first of its size in the Yorkshire and Humberside region to place social marketing at the centre of the behavioural change agenda, with the full backing of high-level policy makers. The aim of the project was to improve life expectancy and reduce health inequalities in Doncaster, by focusing on the early identification of lung cancer within the most deprived areas of the city.

The project objectives were to:

1. Raise awareness of the early symptoms of lung cancer – Specifically a cough that lasts more than three weeks
2. Significantly increase the number of people with potential symptoms presenting at prioritised GP surgeries
3. Significantly increase the number of chest x-rays undertaken in Doncaster by 20 per cent



Stakeholder engagement

Stakeholders were identified and grouped into three categories

- Those who may benefit from the intervention
- Those who would be involved in the delivery of the intervention
- Those who had a role in the governance of authorising the intervention

Those who may benefit from the intervention

Included primary and secondary audiences and lung cancer survivors. Survivors from lung cancer were identified and provided the basis for the insight. Representatives from the primary audience were involved in concept testing the creative messages.

Survivors of lung cancer volunteered to champion the initiative and provided media interviews. The PCT communication and public health members of the steering group were responsible for engaging with these stakeholders.

Those who would be involved in the delivery of the intervention

These included health and social care staffs across primary and secondary care; General Practitioners and their practices that related to the target communities were identified. These practices were visited to raise awareness of the programme, and brief intervention training was given to both GP's and practice staff. Other health staff working in the community were also identified and offered training i.e. community pharmacists.

Community champions were also identified, made aware of the intervention and offered training. The role of secondary care, diagnostics, and assessment and treatment

services including chest physicians, specialist nurses and radiology were also identified. The GP and chest physician on the steering group took responsibility for engaging with primary and secondary care colleagues.

Those who had a role in the governance or authorising the intervention

Those who had a role in governing or authorising the project were identified. All project documents and ultimately the project sign off were taken through the local cancer partnership. The project lead was responsible for identifying other organisational stakeholders and keeping them informed on progress, e.g. the Director of Public Health and Chief Executive of the PCT.

Identifying target audiences

The key variables from the data relating to lung cancer deaths in the Doncaster area were age and sex. This information showed that 98.6 per cent of all lung cancer deaths came from people aged over 50 years. In addition, there was a male dominance of lung cancer deaths with roughly a 60:40 male/female split. So from this information the team deduced the primary target audience to be males, aged over 50, with a secondary target audience of females aged over 50.

Audience profiling

Lung cancer admissions and mortalities were mapped against deprivation and from this map it was clear that the majority of lung cancer sufferers resided in areas of deprivation, although there were clearly pockets that did not follow this pattern.

A variety of geo-demographic classifications were applied to the male over-50 data to see if the profile could be enriched. Five classification systems were used:

1. Health Acorn
2. Acorn
3. PersonixGeo
4. P2
5. OAC

These classifications were explored at group, type and sub-type level in an attempt to identify distinct target groups. Of all the classifications, PersonixGeo appeared to provide the most accurate system for locating the target with the largest percentage of lung cancer sufferers, aged over 50, from deprived areas falling into a single grouping – GR5 (Retired – Low Income). In addition, P2: People and Places, indicated a strong bias towards ‘Weathered Communities’, a segment used in P2.

The use of geo-demographics did not, in this instance, provide a clear cut enhancement to the core target audience profile.



Customer Orientation

Extensive local and desk research was conducted to enable programme planners to understand the issue in more detail. This included;

1. Desk review of national research findings and local data

This revealed that when the research was conducted, lung cancer was the second most common cancer in men, with more than 22,000 new cases diagnosed nationally each year. It showed that 4 out of 5 lung cancer cases occur in people aged 60 and over, leading programme managers to identify their target audience as men over 50 years of age.

This desk research also suggested that smoking increases the chances of lung cancer. Routine and manual workers – a demographic group that matched the campaign’s primary audience – are more inclined to smoke and to ignore smoking-related health messages compared to other groups.

From this research it was decided that the primary and secondary audiences for this project were;

Primary audience

- Predominantly men over 50 years of age living in the most deprived areas of Doncaster from groups C2, D and E.
- Many were smokers, had worked in heavy industry or were unemployed, on incapacity benefit or retired

Secondary audiences

- Families of the primary audience
 - Healthcare workers at the 11 practices across the target area
2. Audit of X-ray use in the local hospital (Doncaster Royal Infirmary)

This showed that most individuals diagnosed with lung cancer had not had chest x-rays for a substantial period of time before diagnosis. In fact, 65 per cent of patients had not had a single chest x-ray in the 6 to 10 years prior to diagnosis.

3. Qualitative research

Prior to the pilot in Carcroft, researchers from Sheffield Hallam University spoke to people who had been diagnosed with lung cancer, asking why they had not come forward earlier and how they found the diagnosis and treatment process. This highlighted a number of barriers that people experienced or perceived in their cancer journeys.



Key insights

- The most fundamental issue that needed to be addressed was the general lack of awareness around lung cancer symptoms
- The second key issue was the lack of understanding about the benefits of getting an early diagnosis and how this improves the prognosis

Audience insights

- The role of raising awareness would be relevant to a broader audience than just the at-risk group. The community and family proximity in these neighbourhoods suggested that broader awareness raising would provide leverage to encourage other family members to present earlier at GPs
- There were considerable fatalistic attitudes and fear around lung cancer, as it is not a disease associated with a positive outcome or linked to positive role models
- The idea of a persistent cough was found to be too vague to prompt action. Many respondents smoked or had worked in heavy industries, such as mining, and were therefore accustomed to living with a persistent cough
- Messages highlighting issues with lung cancer could often be subsumed in a 'stop smoking' message, or be misconstrued as being 'stop smoking' messages. Smokers are highly adept at 'screening out' stop smoking advertising
- At-risk groups could perceive there to be a considerable social and educational differential between themselves and healthcare professionals, which meant that

they did not feel able to challenge professionals when they were not getting chest x-rays and other appropriate medical responses

- Older males in particular tended to be more impassive about their health and resistant about presenting at GPs
- The small geographical area for the pilot phase meant that delivering a broad and impactful communication approach was limited. A wider roll-out would have permitted more media analysis and sophistication in communication strategy (creative solutions that could translate across different media routes relevant to the audience)

Service insights

- To ensure no 'bottlenecks' in capacity, radiology departments needed to forecast and anticipate an uplift in 'demand' for chest x-rays. GPs also needed to be made aware of this additional capacity so that they did not have concerns about overloading radiologists with new referrals
- There may be an increase in demand for GPs' time, as more people may present themselves based on the campaign. GPs needed to be prepared for this potential increase in caseload

Exchange

A range of barriers to behaviour were identified, allowing programme managers to design appropriate responses.

Men had a fatalistic attitude to lung cancer

The programme materials were designed to make the audience aware about the links between early diagnosis of cancer and higher survival rates. Local case studies were used to enable the audience to relate to 'real life' examples.

Patients felt unable to challenge health care professionals

The programme re-positioned the process of arranging a check-up as an easy, fuss-free way to ensure that a persistent cough was nothing serious. The following message was used on the programme's microsite (www.3weekcough.org).



Stoicism of the target audience

The target audience was unlikely to visit the doctor with 'just a cough'. The team tackled this in two ways:

First, information was provided about when a persistent cough should receive attention, by setting the three-week time span and listing other possible signs and symptoms:

- A cough that lasts more than three weeks
- When a cough changes over time
- Complaints that their chest feels different or becomes painful
- Coughing up spots of blood

Second, the primary audience's families were also targeted and prompted to act by encouraging a loved-one to seek professional guidance. If someone they knew had a cough for three weeks or more, they were advised to:

- Make them go to their doctor
- Not take any excuses
- Make sure they ask about a chest x-ray, even if they have had one before

Perception that the intervention would lead to a rise in unnecessary appointments from the 'worried-well'

The team engaged with healthcare professionals through a series of training events that were supported and delivered by people from within the Strategic Health Authority, including Deputy Director of Public Health Dr Rupert Suckling and local GP Dr Mark Boon. In this way, the team were able to win the support of GP staff.

Training for healthcare practitioners was structured around the need to trigger an open conversation with patients and to interpret their body language and possible barriers to voicing their concerns or asking for a chest x-ray.

Competition

A limited competition analysis was undertaken. A number of health competitors were identified, including smoking cessation messages, invitations for vascular health checks and the responsiveness of primary care services. Many people believed lung cancer to be specific to those who smoke.

Many of these competing health messages serve to make individuals less likely to respond to a call to action. Smokers said they would 'screen out' any health message that they associated with smoking. Similarly, non-smokers might interpret a lung cancer intervention as being aimed at increasing smoking cessation and therefore ignore it.

To address these issues, the team planned the launch of the intervention for the week after No Smoking Day (12 March 2008). This was to avoid any confusion between or association with the national no-smoking event.

The choice to use symptoms – such as a three-week cough – as the basic call to action, rather than focusing on risk behaviours such as smoking, also ensured that the programme did not alienate smokers or non-smokers.

Barriers

There were a number of barriers to implementing this intervention, including the novelty of the approach, primary care buy-in, lack of expertise in social marketing and securing sufficient resources.

Despite the importance of early diagnosis in lung cancer there are relatively few evidence based interventions available. Although there is substantial evidence for social marketing, we were not aware of its use in lung cancer in particular. NHS Doncaster was already involved in the Yorkshire and Humber SHA social marketing collaborative, it was through this that external social marketing expertise was obtained. The resource for the intervention was secured through the social marketing collaborative and through NHS Doncaster's health inequalities programme, with the aid of a robust business case.

The biggest challenge was ensuring that primary care could see that they had a part to play. This was approached through a small feasibility intervention in 2007 and the subsequent championing of this piece of work by both primary and secondary care clinicians. This process of starting with a feasibility intervention helped to break down barriers and to dispel myths about the potential impact on primary care.



The project team decided that simply building awareness and a value among the target audience was not going to be sufficient enough to enable behavioural change and that changes also needed to occur from the service side.

The marketing mix would have to include two complimentary approaches;

- Customer 'Push': a public awareness campaign to raise awareness of the symptoms of lung cancer and the benefits of early detection
- Service 'Pull': preparing health care professionals for the initiative by sharing insights, providing training and supporting capacity management in GP surgeries

While the PCT team used what they called a 'service push/service pull' model to generate behaviour change, it also featured elements of the Health Belief Model.



Customer 'Push'

The key message for the intervention was;

"If you have a persistent cough that last for over 3 weeks, ask your GP about a chest X-ray. Acting quickly is crucial."

The creative brief of the project was based on scoping insights, these indicated that;

- Communications should be clear and encouraging, to address fatalistic beliefs that lung cancer inevitably leads to death. It was decided that they should make minimal

reference to cancer (which can inhibit action), but carry enough gravitas to compel people to take action.

- The messages should provide reassurance that early detection can be easily achieved via a simple x-ray referral, and that getting symptoms checked can eliminate worry or enable appropriate early referral.
- Some communications should be targeted at family/friends of people with potential symptoms, emphasizing that they can help their loved ones by encouraging them to ask for a chest x-ray.
- Smoking references should be avoided, as they are often screened out by smokers, whilst not smoking (or being an ex- or passive smoker), does not mean you are not at risk from lung cancer.

As a result of this briefing, the following customer push interventions were developed;

Outdoor advertising

This included placing adverts on buses (inside, outside and on bus stops); fliers/posters; pharmacy bags in target communities.

'Door drops'

This involved dropping leaflets through the letter boxes of residents in target communities.

Media advertising and PR

This included; print, radio and television, alerting people to the campaign and focusing on stories of lung cancer survival, to counter the belief that lung cancer is always incurable

Face-to-face events

- Brief intervention training for 'health' workers (e.g. health trainers, community pharmacist staff, community development workers and cancer information workers) 'tasking' them to have conversations about a 3 week cough with targeted groups and in targeted localities.

- Brief intervention training for community 'influencers' (e.g. community leaders, and 'champions' or volunteers), to have informed conversations with people about the dangers of a 3 week cough and advise them how to act. These 'influencers' were already known to local community workers, or were identified through stakeholder analysis.
- 'Piggy-backing' on existing activity including fêtes, open days and sports activity.

Co-creation initiatives

Facilitating community organisations and/or volunteers to develop their own approaches to spreading the message.

Enabling tools

To address the perceived social gap between the target audience and their healthcare professionals and to encourage the audience to request a chest x-ray from their GP. This was developed to provide patients with tools that could be used by patients as a short-cut when expressing their concerns to GPs. The team piloted a credit-card-style leaflet encouraging those concerned to speak to their GPs, as well as trialling prescription-style pads requesting chest x-rays. However, there was little take-up of the prescription pads.

Service Pull Strategies

Primary Care

- Visits to GP practices by public health staff to introduce the initiative
- Practice training, including;
 - Raising awareness of lung cancer and symptoms
 - Reminding about the benefits of early diagnosis
 - Reminding about best practice guidance from the National Institute of Clinical Excellence (NICE) on referral with suspected cancer

- Delivering Continuing Medical Education (CME) by the secondary care lung cancer team to GP's, to highlight the need to review practice in light of NICE referral criteria.
- Brief intervention training with frontline health/social care professionals (e.g. GPs, nurses, pharmacists, social care, reception staff), to respond appropriately if someone presents with a persistent cough

Secondary Care

- Ensure sufficient x-ray and care pathway capacity
- Review and streamline suspected lung cancer pathways, including systems for rapid review of abnormal chest x-rays by consultants, as opposed to sending abnormal chest x-rays results back to GPs and asking them to refer under the 2 week wait procedure



Phase One (March to April 2008)

Engagement and training with health professionals

The intervention involved an initial process of preparing healthcare professionals for increased patient attendances through training, as well as preparation work for increased referral capacity within GP practices and radiology departments.

GPs in 'hot spot' areas received specific additional training through workshops, while NHS staff were issued a campaign pack detailing the main components and aims of the programme, the best way to assess patient

body language and ways for communicating with the target audience. This engagement work was integral to the programme's success as without GP and healthcare staff support, the necessary referrals would not have been made and an increase in early diagnosis and treatment would not have been achieved.

Frontline staff were also prepared for an increased influx of new patients and encouraged to ask patients why they had come in for a check-up and where they had seen campaign materials. This information was then used for evaluation purposes.

All other GPs in Doncaster were made aware of the programme to prepare them for anticipated increased demand. Radiology departments were also supported to forecast and anticipate extra demand for chest x-rays.

Public relations

In addition to this service preparation work, a strong PR and press element was delivered to attract the attention of the target audience. This included:

- Media launch event
- BBC and ITV local news coverage
- Local radio and press
- Features focusing on real people
- Advertisements placed in bus shelters along bus routes through the target areas
- Beer mats for working men's clubs and pubs
- Prescription bags handed out by pharmacists
- 48 sheet posters (billboards)
- Posters for placement in surgeries and other shared spaces
- Training packs for healthcare workers

These channels were augmented by a unique feature in the form of 'coughing' bus shelters. Sound chips coughed repeatedly to draw people's attention to the creative message.



Doncaster Rovers football club and Doncaster rugby league club also publicly endorsed the programme, while Cough Patrol hit-squads were sent out on match days to engage spectators and encourage them to present any symptoms to their GP.

Phase Two (implemented March to April 2009)

Alongside the interventions used for Phase One, Phase Two recruited and trained Community Champions, who were from the target audience and had ideally benefited from the intervention. These Community Champions had informed conversations about symptoms and early detection with the target audience, using word-of-mouth to reach those people who do not traditionally engage with other forms of media. This was coupled with stalls at fetes, markets and other events to further spread the message on a one-to-one basis.



The evaluation focused on responses to the core call to action: 'If you've had a cough for over three weeks, ask your doctor for a chest x-ray.'

Evaluation methods

Pre- and post-campaign telephone interviews with the target population

One-hundred interviews were conducted with people in the target audience in each of the target communities. Two-hundred interviews were also conducted in a control community in Doncaster, selected for its similarities to the pilot communities. The control community did have some exposure to the broader aspects of the intervention, although not the full mix. The surveys were designed to reveal how effective the campaign was at increasing the likelihood of the target audience to:

- Present to their doctor if they had a cough for three weeks or more
- Present to their doctor and ask for an x-ray if they had a cough for three weeks or more

In-depth interviews with patients from the target areas' GP practices

- *Planned methodology* – The PCT would recruit respondents from the target GP practices. These would be patients who had presented with symptoms during or since the campaign. Depth interviews were planned to explore their experiences prior to presenting, through to their visit to the doctor and beyond.
- *Actual methodology* – Of the patients recruited from the target areas, 150 respondents were called and only 2 fitted the description of the target audience (i.e. had visited their GP with a cough since the campaign began). Unfortunately, neither were registered with the practices in the target area. Due to the change in methodology the findings from the depth interviews were limited.

Analysis of hard data from GP practices

Data was requested from the GP surgeries involved, as well as from a surgery in the control area.

The time period specified was designed to enable the team to look at month-on-month trends and make comparisons between 2007, 2008 and 2009. The data requested was:

- Numbers presenting with potential symptoms of lung cancer
- Numbers of the above receiving a chest X-ray
- Number of lung cancer diagnoses

Phase One results

- Post-campaign results showed an increased intention to act (visit their GP) if people had a bad cough, rising from 93 per cent to 97 per cent
- The number of people who would ask for a chest x-ray when visiting the GP with a 'bad' cough increased from 64 per cent to 76 per cent
- The intervention had a greater impact on smokers and ex-smokers than non-smokers
- Comparing the 6 weeks before and during the campaign, chest x-ray referrals increased by 9 per cent in non-targeted practices and by 27 per cent in targeted practices
- A comparison of the 6 weeks during the campaign with the same 6 weeks of the previous year showed an increase in chest x-ray referrals of 40 per cent across Doncaster
- Those who were interviewed described positive experiences in that appointments were easy to make and happened on the same day, and chest x-rays were arranged by the GP without the patient having to ask
- The number of lung cancer cases diagnosed as a result of the intervention increased from 32 in April 2007 to 54 in April 2008. This increase was not sustained in the following months
- Before the intervention, 11 per cent of new diagnoses of lung cancer were early (Stage 1 or 2). Following the intervention this number increased to 19 per cent

Phase Two results

- Post-campaign results showed an increased intention to act (visit their GP) if people had a bad cough, rising from 82 per cent to 87 per cent (an increase similar to 2008, but with a lower starting point – indicating a drop between the two phases)
- The number of people who would visit their GP and ask for a chest x-ray increased from 54 per cent to 67 per cent (an increase similar to 2008, but with a lower starting point – indicating a drop between the two phases)
- The intervention had a slightly greater impact on smokers and ex-smokers than non-smokers
- Targeted practices increased their chest x-ray referral rates by 22 per cent
- The percentage of lung cancers diagnosed early (Stage 1 or 2) increased from 21 per cent pre-campaign to 23 per cent post-campaign



Following the success of the campaign, a formal debrief was conducted with the core project team, steering group, local GP's and the local Hospital. Results from the evaluation were disseminated to all GP's involved in the campaign. Any new GP practices in the area and practices that originally had said no to the health professional training have since engaged in the training.

In order to ensure that the campaign is sustained without the need of heavy media promotional push, the PCT is intending on building upon the co-production and community element of the campaign, in-house

to maintain an element of control over the activity.

The programme has since expanded in 2009 to include another area of Doncaster with a population of 30,000.

The project team have disseminated their work and findings through the Cancer Action Team and have presented at network development events and at conferences including the HSJ social marketing conference and other public health conferences.

The team have now developed a toolkit for the National Cancer Action Team for health inequalities best practice.

The project has shown that using an approach that focuses on the service or 'Pull' side of the intervention as well as the customer 'Push' side of awareness raising is an effective model in encouraging early diagnosis among non-communicable diseases. The same model is now being applied to Breast and Bowel Cancer in Doncaster.

underestimation of the time required and the amount of internal communication required.

Finally although the evaluation was well thought through, obtaining some of the information was more labour intensive than had been imagined. Initially information from primary care was to be used but this proved too difficult to do.

Lessons learned

Using a robust planning framework in this case social marketing, allowed the team to maintain focus and discipline. The development and ownership of the key insights was crucial in providing both inspiration and a touchstone for the project team. The integrated approach of a customer push and a consumer pull ensured that raised awareness translated into maximum impact by having health services primed to respond.

However there were some areas where things may have been done differently. The steering group did not include a member of the primary audience and this should be remedied in the future to ensure decision-making with target audience in mind at all times.

There was an underestimation of the amount of time required to visit and train all the relevant GP practices, there was also an