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Evaluation of Cervical Screening Services within NHS Wirral

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Abstract

Background

There is concern that cervical screening coverage is not uniform across the eligible age ranges in Wirral. For example uptake of screening is significantly lower amongst women aged 25-34 years across Wirral.

The whole issue of low uptake in women aged 25-34 years has been masked by the fact *overall* rates of cervical screening have not dropped significantly, as women who are used to having a smear are continuing to attend. It appears that the younger age groups often do not feel that it is as important to them, or it will have an impact upon their health needs.

Improving coverage to some extent requires an understanding of the reasons why women do or do not attend for cervical screening. Studies have shown that the perceived benefits of screening, anxiety, embarrassment, fear of cancer and the connotation of sexual promiscuity associated with HPV and cervical cancer are all factors that may contribute to the decision to be screened for cervical cancer [Austoker, 1994].

Methodology

Data Collection

Quantitative data was collected on uptake of cervical screening coverage by GPs for 2008/09 and also amongst women who had never had a cervical smear before aged 25-34 years from Central Operations Mersey (COM).

Qualitative data was collected from six smear takers and six receptionists from six Wirral GP practices using a previously validated questionnaire

Results

- There appears to be a clear link between deprivation and women who have never had a cervical screen.
- The main reasons for non attendance for a cervical smear are fear and embarrassment.
- Convenience of appointments and alternative venues are a main barrier for cervical smears.

- Tackling myths and barriers to give a true picture of what actually happens during a cervical smear.
- Receptionists are identified as an important part of the process.

Recommendations

- Using a social marketing approach to tackle the groups most at risk, perhaps
 focusing on the lack of understanding of the need for smears and the process
 involved to increase uptake, this will ensure all women fully understand all aspects
 of cervical cancer, cervical screening and the benefits prior to procedure through an
 approach which is relevant to the person being targeted.
- Ensure the screening process is as easily accessible as possible for women with flexible times and appointments whilst being opportunistic in their approach. Also to find alternative venues for women to have a cervical screen in a culturally appropriate manner i.e. female smear taker always available.
- All staff involved in cervical screening to receive quarterly updates of how practices are performing with regard to uptake and number of women they need to see to reach the target.

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Introduction

The target for Primary Care Trusts (PCTs) by the National Cervical Screening Programme is to achieve 80% coverage for cervical screening. Overall, Wirral PCT achieved 77.8% in 2008/09. Research from the National Cervical Screening Programme has highlighted that coverage is much lower in the younger age bands across England and suggests this is the reason why PCTs have not met the target. Looking closely at the data for GPs in Wirral there is much lower coverage in the lower age bands also.

Data throughout England has verified that cervical screening coverage is a cause for concern for women aged 25-34 years. "The decline in coverage rates over the last few years, particularly among younger women is a long standing concern." [Neary & Lyons, 2009, pp.17].

There is various literature and research available confirming that there are key reasons why women do not attend for a cervical smear and these include fear and embarrassment. A recent study by Mott Macdonald highlighted that it was fear of the unknown and lack of knowledge that were factors in why women did not attend [Mott Macdonald, 2009].

There is also a link with deprivation highlighted in various research papers suggesting that women in deprived areas are around 40% less likely to attend [Richard et al 2007]. Therefore suggesting coverage rates would be much lower in these areas. Choosing Health and the Wanless Report have both identified that to target these women and increase coverage rates a more targeted approach is needed through social marketing.

A mixed methods approach was used for this research as "the researcher (can) combine alternative approaches within a single research project... one that uses both qualitative and quantitative methods." [Denscombe, 2008, pp.107]. The approach allows the researcher to not only look at the numbers involved but the motivational factors that cause the behaviour. In relation to this research, coverage of women aged 25-34 years was identified as well as were women who have never had a cervical smear live. From this the qualitative research provides an insight in to why smear takers and receptionists feel uptake is low and reasons why they think women in this particular age group studied do not attend.

The discussion and conclusion section is the most important section of the research as it answers the questions of what does the results mean and how does it relate to the research question. It also provides a link to whether the results are conclusive, allowing for the researcher to reflect back at the study being able to provide any recommendations that come natural from the research that would increase uptake of cervical screening.

Aims and Objectives

Aim of Research

To examine the coverage of cervical screening by GP in Wirral PCT and to investigate whether the way GPs deliver the service has an impact upon uptake and why women do not attend whilst identifying the best means to increase uptake for this age group.

Objectives

- Looking at coverage of cervical screening by GP for women aged 25-34 years identifying high and low uptake.
- Characteristics of the way GPs deliver the service and its link to uptake through interviews with smear takers and receptionists.

Identifying who these women are and where they live whilst discovering best ways to target them through Mosaic Public Sector Tool to increase coverage.

Literature Review

What Cancer is and how it develops?

Cancer is the name given to any illness resulting from one of our body's own cells growing out of control [Cancer Research UK 2009]. As there are many processes that control a cell's growth and division there is also room for things to go wrong with this. In general, several of these control mechanisms need to be damaged before a cell becomes cancerous.

Cell division is the process of our bodies cells growing and multiplying, this has to be done very tightly and controlled for all our organs and tissues to function properly however if this happens too quickly major consequences can occur. Cancer is a disease of cell division, uncontrolled cell division can have many causes and usually results in defects or damage in one or more of the genes involved in cell division. If these genes become damaged in some way for example by exposure to cigarette smoke or ultraviolet radiation the cell can start to divide uncontrollably. These can then multiply to form a lump of abnormal tissue called a tumour [Cancer Research UK 2009].

On its own, a single tumour can make you quite ill for example by pressing against nerves, blocking the digestive system or blood vessels, or by releasing hormones that can affect the normal workings of your body. However things can become much worse if the cancer becomes malignant and spreads. This occurs when a single cancerous cell breaks away from the main tumour and starts growing and dividing elsewhere in the body. For this to happen, it must acquire more mutations that will allow it to survive in other parts of the body. For it to spread it must be able to leave its usual environment and travel through the blood or lymph system (invasion) and when it arrives at its new location it must be able to make new blood vessels grow around it and supply it with oxygen and nutrients (angiogenesis) [Cancer Research UK 2009]. This process is known as metastasis and is much more difficult to treat and can make you a lot more ill as more areas are affected.

Sometimes however cells can divide uncontrollably without being able to spread. This is known as a benign tumour which can easily be removed with surgery.

However cancer is still a major public health concern. There are many types of cancer that are completely preventable but are not being prevented and often if caught early could be

cured thus increasing the survival rate [DoH, 1999]. With this, the Government has placed

a high priority on cancer with "one in three people (developing) cancer at some point in

their life" [Bendel, 2002, pp.12]. Cancer costs to the NHS are extremely large. Cancer

costs the NHS around 4.35 billion a year being the third largest programme, the spend on

cancer has increased by 27% over the last 3 years [DoH, 2007]. However as the incidence

of cancer increases there will also be increased costs to services therefore knowledge of

how to prevent, diagnose and treat cancer needs to continue to expand and develop.

Worldwide, there were around 11 million new cases of cancer in 2002 and a guarter of

these were in Europe. Cancer can develop at any age however it is most common in older

people, around three quarters of cases occur in people aged 60 and over. In the UK in

2007 there were more than 155,000 cancer deaths with cancer causing one in four of all

deaths in the UK [Cancer Research UK 2009].

Figure 1 below shows the incidence for all cancers (indirect standardised regression ratio

(SRR) SRR is Standardised Registration Ratio for the North West and Wirral.

Indirect standardisation compares actual incidence to expected incidence, adjusting for

age and sex. This produces a ratio, or a SRR. The expected incidence is taken from the

incidence in a larger reference population.

The SRR of the reference population is always 100, a value of lower than 100 means that

fewer numbers than expected occurred in the local population after adjusting for

differences in age and sex; more than 100 means that there have been more numbers

than expected.

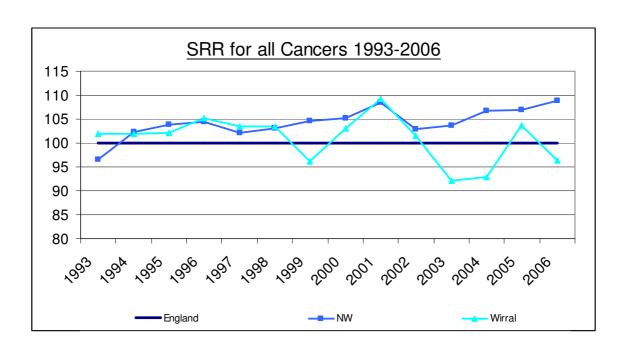
Since 1993 incidence has increased across the North West whereas rates in Wirral have

fluctuated above and below the England average between 1993 and 2006.

Figure 1: Incidence from all Cancers (SRR)

Source - NCHOD, 1993-2006

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Cancer in the North West presents a major challenge to health services and to the wider community and is more common in the North West of England than the rest of the country, except for the North East [NHS North West, 2008]. However looking at data from the National Centre for Health Outcomes Development (NCHOD) comparing England, the North West and Wirral it is clear from the chart below that in general Wirral has a higher mortality rate for all cancers compared to England and the North West. The direct standardised rate (DSR) gives an indication of the number of events that would occur in a standard population, if the population had the same age-specific rates of the local area. The standard population that is most commonly used is the European Standard population. The rates are calculated per 100,000 and because rates are applied to the same population, rates across areas can be compared [Avon NHS, 2010].

Figure 2 below shows the direct standardised rate (DSR) for cancer for 1993-09. The figure shows that Wirral and the North West are above the England DSR and suggest cancer is a larger issue for the North West in particular Wirral.

Figure 2: Mortality from all Cancers (DSR/100,000) Source – NCHOD, 1993-2008

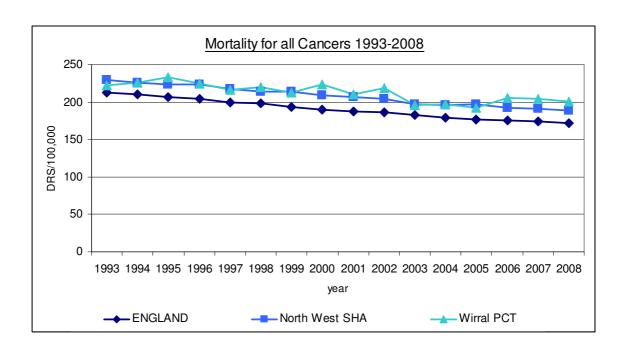


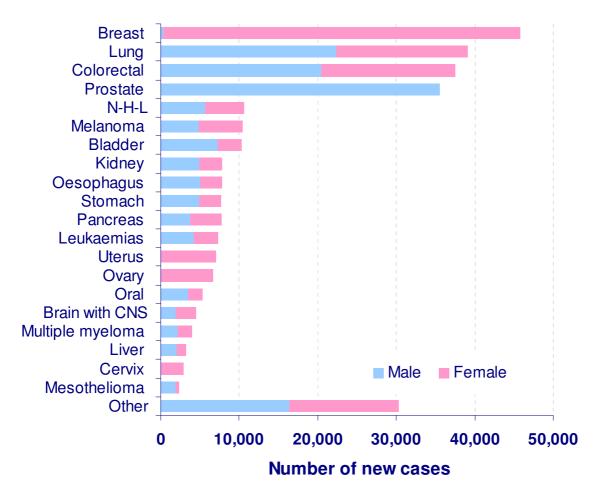
Figure 1 and 2 above suggest for Wirral that although not as many people as expected are diagnosed with cancer however more than expected are dying from it.

Common cancers

There are more than 200 different types of cancer, but four of them - breast, lung, large bowel (colorectal) and prostate account for over half (54%) of all new cases [ONS, 2009]. Breast cancer is the most common cancer in the UK despite the fact that it is rare in men. The 20 most commonly diagnosed cancers in the UK are shown in figure...... below [ONS, 2009].

Figure 3: The UK's most commonly diagnosed cancer split by male and female. Source : ONS, 2009

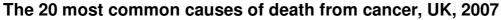


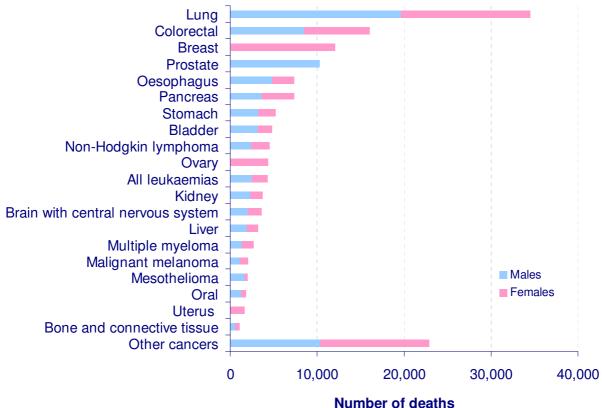


In comparison there are differences in mortality from the common cancers. One in four (27%) of all deaths in the UK are caused by cancer. There were 155,484 cancer deaths in the UK in 2007 [ONS, 2009]. Deaths from cancers of the lung, bowel, breast and prostate together account for 47% of all cancer deaths. The 20 most common causes of death from cancer are shown in figure 4 below.

Figure 4: The UK's most common cause of deaths from cancer split by male and female.

Source: ONS, 2009





More than 1 in 5 (22%) of all cancer deaths are from lung cancer. Colorectal cancer was the second most common cause of cancer death (10%) and, despite being extremely rare in men, breast cancer was the third most common cause of cancer death in all persons (8%) [ONS, 2009].

Cancer was responsible for 27% of all deaths in the UK in 2007 - 29% for males and 25% for females [ONS, 2009].

Policy

Cancer is a major public health concern and the government has placed a high priority on tackling cancer [Bendel, 2007]. The National Public Health Strategy, in *Saving Lives: Our Healthier Nation* set a target of reducing cancer deaths among people aged under 75 years by at least a fifth over the period up to 2010 [DoH, 1999]. Following on from this was various other reports: The NHS Plan (2000) and The National Cancer Plan (2000). Both reports focus on cancer and improving services and outcomes by setting targets and actions. The Cancer Reform Strategy builds on the progress made since the publication of the NHS Cancer Plan in 2000 and sets a clear direction for cancer for the next five years [DoH, 2007]. The main aim of this strategy is that by 2012 the (UK) cancer services can and should become among the best in the world [DoH, 2007]. More recently, the NHS North West updated their Cancer Plan, The Cancer Plan for the North West of England to 2012 placed high priority on prevention through screening to cope with demand for cancer services in the future.

Cervical Cancer

Cervical cancer is the third most common cancer world-wide, with at least 400, 000 new cases identified throughout the world each year [Cancer Research UK, 2009]. Although 80% of these cases occur in developing countries, cervical cancer also represents a major cause of morbidity and mortality in developed countries amongst women [Parkin et al, 1999].

Approximately 2,800 women are diagnosed with cervical cancer each year in the UK [Cancer Research UK 2009]. It occurs most frequently in women who are under 35 years old (breast cancer is the only cancer to occur more frequently in this group) [NHS Choices, 2010].

There are two main types of cervical cancer

- Squamous cell carcinoma is the most common type, and develops from the flat cells that cover the outer surface of the cervix at the top of the vagina
- Adenocarcinoma develops from the glandular cells that line the cervical canal. As it starts in the cervical canal it can therefore be more difficult to detect using cervical screening tests.

It can often take years for cervical cancer to develop and before it does start to develop, the cells in the cervix often show changes known as cervical intra-epithelial neoplasia (CIN). This is known as the pre-cancerous cell stage and if left untreated can develop into cervical cancer. This can be prevented if it is detected in the early stages via cervical screening.

Statistics in the UK show that since 1988 64 million cervical screens have been performed with over 400,000 significant abnormalities detected. Since 1994/95, the average coverage by the cervical screening programme has been 81% and screening has prevented around 75% of cervical cancer cases by detecting and treating cervical abnormalities in women who attend regularly [Sasieni, Adams, & Cuzick, 2003]. This is one of the main reasons why screening is important as it prevents mortalities by detecting cervical cancer early thus being able to treat it.

Cervical Cancer Incidence and Mortality in Wirral

Incidence

Table 1 below shows the Standardised Registration Ratio (SRR) of cervical cancer for 2006/08 split by locality and for Wirral overall.

The overall indirect standardised rate for Wirral (2004-06) is 97.67. This is 2.3% lower than the England average.

For the period 2006/08 Wallasey locality had a SRR of 131.82. This is 32% higher than expected compared to the England average. Wallasey is on the east of Wirral with parts of it being fairly affluent and other parts being quite deprived therefore the population is mixed in its health needs.

Table 1: SRR of Cervical Cancer (2006/08)

Source: North West Cancer Intelligence Service, 2009

Areas in Wirral	Females	UCL	LCL
Bebington & West Wirral	74.81	34.14	115.48
Birkenhead	96.91	49.42	144.39
Wallasey	131.82	60.16	203.48
Wirral	97.67	68.13	127.21

Mortality

Table 2 below shows the indirect standardised mortality ratio (SMR) for cervical cancer for 2006-08. This compares actual mortality to expected mortality, adjusting for age and sex. This produces a ratio, or a SMR. The expected mortality is taken from the mortality in a larger reference population. The SMR of the reference population is always 100, a value of lower than 100 means that fewer numbers than expected occurred in the local population after adjusting for differences in age and sex; more than 100 means that there have been more numbers than expected.

In general, the table shows that Wirral is above the England average, but with quite large confidence intervals.

Confidence intervals or limits are used to give a range of values within which there is a degree of certainty that the values are correct, and to assess if values are significantly different from that of the reference population. This range is required as there is likely to be

some variation that occurs by chance. For 95% confidence intervals we can be 95% certain that the real value (e.g. SMR) will fall somewhere between the values of the two confidence limits 95 times out of 100.In SMRs if the confidence intervals are both one side of 100 then the result can be termed 'statistically significant', high if both values are above, and low if both values are below 100. A small numbers of events or a small sample population will tend to produce wide confidence intervals, i.e. a large difference between the upper and the lower confidence limit. A large number of events or a large sample population will tend to produce narrow confidence limits [Avon NHS, 2010].

Table 2: Cervical Cancer Mortality (SMR)

Source: Wirral PHMF, 2006-08

Areas in Wirral	Females	UCL	LCL
Bebington & West Wirral	73.31	9.05	137.57
Birkenhead	119.06	30.86	207.26
Wallasey	143.28	17.69	268.87
Wirral	105.01	55.09	154.92

Generally Wirral PCT has a higher SMR for cervical cancer mortality however the incidence (SRR) for cervical cancer is lower than the England average. This suggests that although more people are dying than expected from cervical cancer, the incidence rate is not that high in comparison. Wallasey Locality has a high rate of new cases of cervical and a high mortality rate also. This suggests more people have been diagnosed and died from cervical cancer than expected compared to the standard population.

Risk Factors

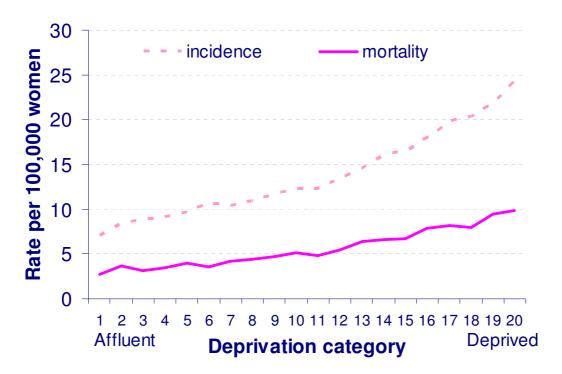
As with all diseases, there are also risk factors associated with cervical cancer. The main risk factor associated with cervical cancer is the human papilloma virus (HPV) which is detected in virtually all cervical cancers. "It has been proposed as the first ever identified "necessary cause" of human cancer" [Cancer Research UK 2009]. The majority of sexually active women are more likely to come in to contact with HPV types and more often their own body's immune system fights the infection without the person even knowing. However only a minority of women who have persistent infection by HPV will develop cervical abnormalities and if left untreated they can develop into cervical cancer. Women with many sexually partners also put themselves at risk as their behaviour exposes them more to HPV [Neary & Lyons, 2009].

Another risk factor related to cervical cancer is smoking. "Women who smoke are about twice as likely to develop cervical cancer as non-smokers." [NWCSQARC, 2007, pp.9]. Smoking is thought to suppress the immune system allowing the persistence of high risk infection of HPV as discussed above. Stopping smoking allows abnormalities to return to normal.

Socio-economic status is also linked to an increased risk of cervical cancer. Figure 5 below highlights women living in the most deprived areas have rates more than 3 times as those in the least deprived areas [Cancer Research UK, 2009].

Figure 5: European age-standardised incidence of and mortality, cervical cancer by deprivation category, England and Wales,

Source - ONS, 1990-93



Compared to other cancers there are not as many risks associated with cervical cancer apart from the HPV virus which is discussed above.

Screening

The UK National Screening Committee (NSC) defines screening as:

"...a public health service in which members of a defined population, who do not necessarily perceive they are at risk of, or are already affected by a disease or its complications, are asked a question or offered a test, to identify those individuals who are more likely to be helped than harmed by further tests or treatment to reduce the risk of a disease or its complication." [Royal College of Nursing, 2008, pp.2].

Screening allows population health monitoring by means of detecting diseases, precursors or risk factors for a disease or condition [Marshall, 1995].

Throughout the most recent cancer strategies, screening has been given a dominant role in prevention. Screening can decrease the number of cases of cancer by detecting them early.

Although there are many advantages to screening in the sense it can save lives through early detection and diagnosis of serious conditions, there are some limitations. "In any screening programme, there is a minimum of false positive results (wrongly reported as having the condition) and false negative results (wrongly reported as not having the condition)." [National Screening Committee, 2009, pp.3].

However although there are risks and limitations involved, the benefits outweigh the risks with more people being diagnosed early and thus reducing the chance of mortality, ".....early detection before the development of symptoms will lead to better health outcomes, with reduced disability or lowered mortality." [Neary & Lyons, 2009, pp.5].

Cervical Screening

The basis of a cervical screening test is the smear test or pap test. It is named after George Papanicolaou who was the first person to realise that cells exfoliated from the cervix and picked up in a vaginal smear could be seen under microscope and used in the diagnosis of cervical cancer. His paper [Papanicolaou and Traut, 1943]. prompted the USA to encourage screening for asymptomatic women. Following on from this, in the 1970s, Walton concluded that, the more women that are screened the greater the reduction in the incidence of the disease [Walton et al, 1976]. Screening throughout the UK had been provided on a localised basis since the 1960's, however it was not until the National Screening Programme was set up in 1988 that every health authority became obliged to provide a cancer screening service.

The Papanicalou, or Pap smear, screening test is used worldwide and is primarily aimed at detecting pre-cancerous changes within the cervix (i.e. abnormalities in the cervix known as dysplasia) before they have an opportunity to progress to invasive carcinoma (cervical cancer). More than 90% of cervical cancers develop in the transformation zone which is the area in the cervix where abnormal cells develop and are detected through screening. Disease progression from dysplasia to invasive cancer is usually slow, therefore providing the opportunity to detect and treat pre-cancerous disease. This is the main reason why regular screening is important [Jo's Trust, 2010].

The NHS Cervical Screening Programme

Cervical screening began in Britain in the mid 1960s, and by the mid 1980's, although many women were having regular smear tests there was concern that those at greater risk were not being tested and that those who had positive results were not being followed up and treated effectively. In response to this, in 1988 the Department of Health instructed all health authorities to introduce computerized call-recall systems and to meet certain quality standards the NHS Cervical Screening Programme was set up [NHS Cervical Screening Programme, 2010].

The NHS Cervical Screening Programme aims to reduce the number of women who develop invasive cervical cancer (incidence) and the number of women who die from it (mortality). It does this by coordinating the screening of all at risk women so that conditions which might otherwise develop into invasive cancer can be identified and treated. Since its introduction in 1988, the programme has screened approximately 64 million women in the target age group and has detected a huge number of significant cervical abnormalities (approx 400,000), highlighting the pivotal role screening plays in the prevention and early detection of cervical cancer in England [NHS Cervical Screening Programme, 2010].

All women between the ages of 25 and 64 are eligible for a free cervical screening test every three to five years. In the light of evidence published in 2003 the NHS Cervical Screening Programme now offers screening at different intervals depending on age. This means that women are provided with a more targeted and effective screening programme.

Table 3: Frequency of Screening for different age groups

Source – National Screening Programme

Age group (years)	Frequency of screening
25	First invitation
25 - 49	3 yearly
50 - 64	5 yearly
65+	Only screen those who have not been screened since age 50 or have had recent abnormal tests

The NHS call and recall system invites women within a specific age range who are registered with a GP. It also keeps track of any follow-up investigation, and, if all is well, recalls the woman for screening in three or five year's time. It is therefore important that all

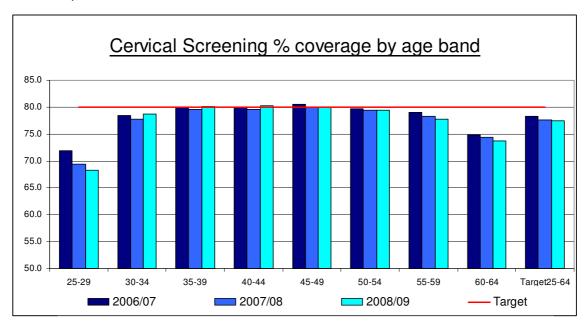
women ensure their GP has their correct name and address details and inform them if these change. Women who have not had a recent test may be offered one when they attend their GP or family planning clinic on another matter. Women should receive their first invitation for routine screening at 25.

Cervical Screening Coverage in Wirral and Low uptake in the younger age group

In Wirral, overall uptake of the NHS Cervical Screening Programme has been consistently above the national average of 80%. However since 2006/07 coverage has started to fall.

Figure 6: Cervical Screening Coverage in Wirral

Source: COM, 2006 /2009



There is concern that coverage is not uniform across the eligible age ranges in Wirral. For example uptake of screening is significantly lower amongst women aged 25-34 years. This issue is by no means unique to Wirral however the NHS Cervical Screening Programme Annual Review (2008) also highlighted the fact that younger women, especially those aged 25-34 years were not responding to invitations to take part in the NHS Cervical Screening Programme [NHS Cervical Screening Programme, 2008]. This is shown in figure 6 above as coverage is much lower in the younger age groups and highlighted in the 2009 report of screening programmes across Cheshire and Merseyside Primary Care Trusts. "The decline in coverage rates over the last few years, particularly among younger women is a long standing concern." [Neary & Lyons, 2009, pp.17].

Improving coverage to some extent requires an understanding of the reasons why women do or do not attend for cervical screening. Studies have shown that the perceived benefits of screening, anxiety, embarrassment, fear of cancer and the connotation of sexual promiscuity associated with HPV and cervical cancer are all factors that may contribute to the decision to be screened for cervical cancer [Austoker, 1994]. Variations amongst populations and the complex nature of the factors involved in a woman's decision to be screened mean that interventions that may be successful in one setting will not be effective in another and thus need to be targeted effectively.

The data supports the view that uptake is low in the younger age groups and a cause for concern:

"The latest NHS figures show that in the past year, nearly one million women ignored their screening test invitation. Although 4.18 million women were invited for cervical screening, only 3.22 million were tested in 2007-2008. The biggest drop in screening has been seen in the younger women. Uptake amongst those aged 25-29 years is just 62%, having fallen by 12.6% since 1998. uptake among women aged 30-34 years has fallen from 83.5% to 76.8% in the past decade" [Practice Nurse, 2008, pp.1].

The whole issue of low uptake in women aged 25-34 years has been masked by the fact that overall rates of cervical screening have not dropped much as the women who are used to having a smear are continuing to have one were as the younger age group often do not feel it is as important to them or it will have an impact upon their health. "It is recognised that women often give low priority to their own health needs and may need regular encouragement to attend for screening and advice" [NWCSQARC, 2007, pp.8].

Cervical Screening and Deprivation

Cervical Screening uptake and coverage is variable between and within countries amongst different socio-economic groups according to factors including ethnic origin, age, education and socio-economic status. Literature suggests that there is a link between cervical cancer and screening uptake and deprivation. "For any screening programme to work efficiently and equitably, good coverage is essential and the fact that women from disadvantaged neighbourhoods appear to be more reluctant to attend for screening will serve to increase health inequalities in the area." [Lyons & Neary et al, 2009, pp.7]. Cervical cancer is generally a preventable disease due to the National Cervical Screening Programme however there is evidence to suggest that cervical cancer is linked to deprivation, "women living in the most deprived areas of England are nearly twice as likely

to be diagnosed with cervical cancer than their affluent counterpart" [Practice Nurse, 2008, pp.1]. Therefore more needs to be done to tackle the low income communities, "in the most deprived areas of England, 12 women per 100,000 were diagnosed with cervical cancer between 2000 and 2004. In the most affluent areas, only 6 per 100,000 women were diagnosed with the disease during the same period" [Practice Nurse, 2008, pp.1]. These figures suggest that women who live in the more deprived poorer areas are less likely to attend for a smear than women who are more affluent so by attending for a smear they are less likely to develop the disease. A Report published by the National Cancer Intelligence Network (NCIN) reveals "a 'deprivation gap' that researchers believe is mainly fueled by a lower uptake of cervical screening in deprived areas" [Practice Nurse, 2008, pp.1]. Research by NHS Cervical Screening Publications has suggested that women in deprived areas are around 40% less likely to attend [Richard et al, 2007]. These figures are concerning as it suggests a women living for example in a poorer area is less likely to attend for a cervical smear than a woman living in a affluent area, so they are more likely to develop the disease. It is worrying that a woman's income and where they live can have a significant effect on risk of cancer. "It is clear that much needs to be done to encourage women from low-income communities to attend cervical screening" [Practice Nurse, 2008, pp.1].

This association with deprivation is also linked with the younger age groups. "The differences in coverage rates between younger women living in deprived areas compared to older women from more affluent districts are of particular concern since initial entry or non participation into the screening programme at a young age influences a woman's behaviour in the longer term and therefore coverage rates both now and in the future." [Neary & Lyons, 2009, pp.18]. Therefore as stated it is important to look for reasons why uptake for cervical screening is low and what would encourage or motivate women to have a smear.

Reasons Why Coverage is Low

Literature available highlights that there are many reasons why a woman does not attend for a cervical smear. "Women may not attend due to reasons such as their perceptions of vulnerability, the costs involved, the perceived benefits of screening, anxiety, embarrassment, fear of cancer or because of family difficulties/personal circumstances" [Austoker, 1994].

This is in line with recent research carried out by the Improvement Foundation. They under took a twelve month project with certain Primary Care Trusts (PCT) in England to investigate low uptake amongst younger women. The project worked with health practitioners and PCT staff looking at local circumstances affecting low uptake and trying to determine why women are not responding positively to their invitation. From this they highlight examples of best practice. The key findings from the research highlighted lack of knowledge and understanding coupled with fear and embarrassment as a key reason women do not attend. This is through fear of the unknown and bad experiences that they may have heard about [Improvement Foundation, 2008]. Fear and embarrassment is also a common theme by the work done by an external research company Mott Macdonald.

In May 2009, NHS Wirral commissioned Mott MacDonald to conduct a survey looking at the cervical screening programme in Wirral. The study was split in to two parts.

- Understanding why the take up rate of cervical cancer screening services amongst young females (25-34 years) in Wirral is relatively low.
- Explore ways to improve the up-take of these services amongst this target group.

Forty members of the public were consulted in May 2009. Of these forty, three women participated in a mini focus group and 37 were interviewed individually. Follow up conversations were carried out with a selection of the participants to gather more in depth information.

Summary of findings

The main reasons for non access of cervical screening services for women aged 25-34 in Wirral were fear and embarrassment. This was fear of pain associated with having a smear test and fear of the 'unknown' coupled with the 'horror stories' they had heard from other people. Connected to this idea of fear and the unknown is lack of knowledge. Specifically, the idea of not knowing enough about the screening procedure and the reasons screening is important which leads to avoidance.

As having a cervical smear is invasive and intrusive, embarrassment was key and identified as one of the main issues as reasons why women have not attended a cervical smear appointment.

Ways to encourage women aged 25-34 to go for screening was a key part of the research. Main themes included

- Providing more information on what the process would entail and the reasons why cervical screening is important.
- Guaranteed female clinician
- Alternative venues to a GP practice i.e. mobile screening unit, workplace screening also more flexible times for example out of hours and Saturday clinics to address time constraints.

Overall the key messages from the research were to provide more information to women aged 25-34 with regard to why they are having a cervical smear and the process involved in order to alleviate the fear and embarrassment that they anticipate they may experience. The need for clear information to help remove any preconceived ideas that already exist and give a true account of exactly happens was identified.

Previous research has also identified that reasons women do not attend maybe due to personal reasons, "they may have had a bad experience at a previous smear test or an intimate examination may even recall memories of sexual abuse" [Athi, 2002, pp.128]. Both Mott Macdonald and the Improvement Foundation have also noted that a female smear taker is also important. Women feel more comfortable if it is a women who is taking the smear [Seamark, 1998].

Athi also supports the importance of accurate information about smear taking. "Occasional negative headlines deter women from attending screening appointments" [Athi, 2002, pp.128]. This can often be through television campaigns, documentaries and magazine articles. Informal sources of information such as friends and relatives, those who have had the test before or have needed treatment from a positive test result are also sources of useful information but can often have a negative effect.

Social Marketing

It is therefore important that the correct messages around cervical screening are targeted effectively in the most appropriate manner. This is done through social marketing which "uses traditional marketing strategies such as explicitly seeking to understand what consumers want, and then tailoring service developments to meet identified needs." [Lyons & Neary et al, 2009, pp.7]. In terms of cervical screening and this research it is about using the most appropriate communication methods that women aged 25-34 years would be most receptive to.

Social Marketing is an important feature in both the Department of Health's Choosing Health and the Wanless Report. The Wanless report [HM Treasury, 2004]. recognised that promoting positive health behaviours can often be a challenge. Achieving behaviour change requires sustained collaborative work across sectors and at many levels. Social marketing was specifically highlighted in the white paper as an important approach that with the potential to improve outcomes at local and national levels. In using it for this research awareness of screening can be more effective and targeted.

Mosaic public sector tool allows the researcher to do this. Mosaic is a geo-demographic population classification tool produced for the public sector. It is used to segment the population according to the type of neighbourhood in which they live and is constructed from a range of data sources including the Census, consumer behaviour and lifestyle factors. It is a useful tool for gaining more in-depth insight into the behaviour and beliefs of the population or certain groups of the population. Mosaic Public Sector segments the population into 11 Groups and 61 Types, based on their postcode. Each of the eleven main groups is listed below, along with their colour coding.

Mosaic Public Sector Group Descriptions

- A Career professionals living in sought after locations
- B Younger families living in newer homes
- C Older families living in suburbia
- D Close knit, inner city and manufacturing town communities
- E Educated, young single people living in areas of transient populations
- F People living in social housing with uncertain employment in areas of deprivation
- G Low income families living in estate based social housing
- H Upwardly mobile families living in homes bought from social landlords

- I Older people living in social housing with high care needs
- J Independent older people with relatively active lifestyles
- K People living in rural areas far from urbanisation

Summary

It is apparent from the research that there is a reduced rate of uptake of cervical screening in the lower age groups. This is also true for women in Wirral. The research to date also highlights there are reasons why uptake is low for this age group however on the other hand it is important to identify if the same themes are apparent for women in Wirral. Identifying who these women are who have never had cervical smear and where they live could help identify the best communication methods that they would be receptive to that would encourage them to go for a cervical smear.

Methods

In order to achieve the defined aim of this project, data was collected from Central Operations Mersey (COM) and a questionnaire was also conducted with GP's receptionists and smear takers in Wirral.

It is important to note at this step that throughout all stages of this research no ethical approval was needed as individuals in the data were not identifiable and this was aggregated up to GP level. The interviews within the practices looked at service delivery and reasons for non-attendance among women in Wirral.

The methodology for this research has been split into 3 stages which is in line with the mixed methods approach. "The term 'mixed methods' applies to research that combines alternative approaches within a single research project.....one that uses both qualitative and quantitative methods." [Denscombe, 2008, pp.107]. This approach produces a fuller account of the situation that looks at not just the scale of the issue, for example numbers involved but also gives insight into the motivational factors that causes the behaviour through peer group pressure and emotional fear such as embarrassment. Each stage of this research leads on to the next, "moving the analysis forward, with one method being used to inform another...an alternative method is introduced as a way of building on what has been learned already through the use of the initial method." [Denscombe, 2008, pp.111].

Figure 7 below highlights how the mixed methods approach relates to this piece of research.

Figure 7: Diagrammatic representation of a mixed methods approach

Quantitative Data

Uptake by GP practice which highlights areas of

high, medium and low uptake

Qualitative Data

Interviews conducted with smear takers and receptionists to highlight examples of good practice to improve uptake and reasons why women do not attend for a smear



Illustrating the geographical localtion of these women and identifying if there is a link to deprivation. From this highlighting what methods of communication would they be receptive too to encourage them to attend for a smear and thus increase uptake

Advantages of a mixed methods approach in relation to this research:

• Clear links between different methods and kinds of data and how and why different methods complement each other. In relation to this research, the quantitative data around low uptake of cervical screening led to a qualitative investigation into possible reasons as to why uptake was low and methods that could increase uptake in the age group selected for study. Then the study reverted back quantitative analysis in order to identify clusters of women who have never been screened and what communication methods they would engage with in an attempt to increase uptake.

Problem driven rather than theory driven – finding the best methods to discover out what works well and applying it to a practical situation. This research allowed each issue to follow on to the next. Identifying the low uptake GPs which led on to interviewing and then allowed the women who had never had a screen to be identified.

Stage 1 – Calculation of uptake rates at GP level

Data was requested and collected from COM providing the cervical screening coverage for all age groups. Coverage is calculated as women who had attended for a cervical smear, as a proportion of the eligible population on GP registers.

Table 4 below shows the frequency of screening for women in the Cervical Screening Programme.

Table 4: Frequency of screening by age

Age group (years)	Frequency of screening
25	First invitation
25 - 49	3 yearly
50 - 64	5 yearly
65+	Only screen those who have not been screened since age 50 or have had recent abnormal tests

As a performance management measure, the National Cervical Screening Programme has an 80% target and splits the ages of women into bands as shown in table 5 below.

Table 5: Age bands for cervical screening

25-29 years 30-34 years 35-39 years 40-44 years 45-49 years 50-54 years 55-59 years 60-64 years

For the results for this piece of research, it was split to show women aged 25-29 and 30-34 by Wirral localities and the uptake by GP. As noted in the literature review women aged between 25-34 years do not attend regularly for a cervical smear as overall coverage is low for this age group and this is in line with the rationale behind why I looked at this age group. This was calculated as the number of women who had had a cervical smear in each practice divided by the number invited aged 25-34 years and multiplying it by 100 to

acquire a percent. This showed the percentage coverage of cervical screening for each GP in Wirral. Bar charts were produced to highlight the GPs who had not met the 80% cervical screening programme target split by localities in Wirral as there are too many practices across the patch to analyse effectively and present visually.

Stage 2 – Interviews with professionals

GP's with high, average and low coverage were highlighted from stage 1 and were then interviewed to gain an insight into smear takers and receptionists views of non attendance of cervical smears. Six GP practices were interviewed 2 from each section i.e. high, medium and low uptake. The interview questions can be found in the appendix. They included questions around why they felt uptake was low and methods they felt would improve it. The questions were selected from a pre-approved questionnaire from NHS Central Lancashire as the questions had been validated therefore using a pre-approved questionnaire ensured that the questions were ethical and suitable to be used. The interviews were structured interviews as this allowed the questionnaire to be administered face to face with the respondent using predetermined questions therefore having tight control of the interview [Denscombe, 2008]. The GP practice managers were contacted to arrange appropriate times to meet with the smear taker and receptionist with each interview lasting around 20 minutes. The interviews allowed each person enough time to fully explain their role in the process and how they felt they could improve uptake within their role. The interviews also allowed the interviewee to talk about methods of best practice, things that have worked well within their practice and things that hadn't. This was an important stage in the research as it linked with work carried out by Mott Macdonald and the Improvement Foundation as it reinforces and supports the outcomes from the interviews. Within the interviews smear takers and receptionists were able to answer questions around why they thought women in that age group did not attend but also what they thought would encourage them to. Receptionists were deemed important to interview from the start of the research as they are the first point of call when a woman contacts the GP surgery. They can often have the biggest impact of whether a woman attends therefore they need the correct information to deal with questions appropriately. Smear takers were important to interview as they are the people who perform the procedure on the woman so have first hand experience of fears and embarrassment that are associated with having a smear.

Face to face interviews were used rather than postal questionnaires in order to make the experience for the interviewee as easy as possible. The interviewee could talk freely and if further explanation was required or clarification on answers needed it could be requested at the time by the interviewer. The interviews were not recorded as the questionnaire was filled in sufficiently in as much detail as possible.

<u>Stage 3 – Identifying women who have never had a cervical smear and communications to improve uptake</u>

After a profile in stage 2 had been built around possible reasons for non-attendance, the next stage of the research led on to further research around women aged 25-34 years who had never had a cervical screen, the areas where they lived, what might motivate them to attend for one, and the best communication methods they would likely to be receptive to in encouraging them to do so.

Information relating to women aged 25-29 years and 30-34 years who were registered with Wirral GPs and never had a cervical screen was provided by COM. This information was important as COM provided the postcode of the woman, her age, NHS number and her NHS practice code. A NHS Wirral look up table of GPs names and codes was used to match the NHS practice code to the practice name which showed how many women in each practice had never had a cervical smear. This indicated that there were a significant number of women who had not been screened and therefore could be described as a hard to reach group. Therefore this group would need to be targeted effectively to encourage them to attend for a screen. This stage of analysis produced a list of GPs with high numbers of women who had never had a cervical smear.

Using the postcode field from the patient level data from COM it was possible to calculate the percentage of women aged 25-34 who had never had a smear at electoral ward level in Wirral. Geographical Information System (GIS) software was used to produce a map by ward to visually show where these non screened women live and also investigate links to deprivation. In this study the Index of Multiple Deprivation was used.

The Index of Multiple Deprivation 2007 (IMD 2007) is a lower layer Super Output Area (LSOA) level measure of multiple deprivation, IMD 2007 is made up of seven domain indices. LSOA is a discreet population containing approximately 1500 residents making reporting of statistics easy. IMD 2007 ranks each LSOA into a quintile from 1 to 5, least to most deprived respectively. Data on women who had never been screened aged 25-34 years was analysed to ascertain the percentage in each age group that fell in to each IMD quintile. This indicated the level of deprivation across Wirral of women who have never had a cervical screen.

In addition to looking at deprivation and where these women live it is important to investigate the best ways to target these women and the methods of communication they maybe receptive to. This maybe achieved using a Social Marketing approach; "the systematic application of marketing, along side other concepts and techniques, to achieve specific behavioral goals, to improve health and reduce inequalities." [French, Blair-Stevens, 2006]. The segmentation software package Mosaic was used to analyse the postcodes of women who had never been for a cervical screen aged 25-34 years. Mosaic is a geo-demographic population classification tool produced for the public sector. It is used to segment the population according to the type of neighbourhood in which they live and is constructed from a range of data sources including the Census, consumer behaviour and lifestyle factors. It is a useful tool for gaining more in-depth insight into the behaviour and beliefs of the population or certain groups of the population. Mosaic Public Sector segments the population into 11 Groups and 61 Types, based on their postcode. Each of the eleven main groups is listed below, along with their colour coding.

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- J Independent older people with relatively active lifestyles
- K People living in rural areas far from urbanisation

Mosaic segmented women who had never had a cervical screen in to groups highlighting the predominant groups which were over-represented. Over representation highlights more women than you would expect given the make-up of the Wirral population. Mosaic was then able to show the key features of these groups and methods of communication they may be receptive to. In order to target the audience more effectively, mosaic then allows the groups to be looked at even further and segmented in to types. These types

enable initiatives to be targeted more precisely thus in this case being able to communicate to women who have never had a cervical screen more effectively.

Summary

This research is a good example of a mixed methods approach as combining the methods allows the researcher to produce a fuller account of the situation that covers not only the scale of the issue (e.g. numbers involved, age etc) but also gives some insight into the motivational factors that give rise to the behaviour (e.g. self image, stress, peer groups.)" [Denscome, 2008, pp.110].

The first stage of the research is the building blocks to identify which GPs are important to interview, The interviews in stage two provide an insight in to why smear takers and receptionists feel uptake is low and reasons why women in this particular age group do not attend. This is also coupled with the work done by Mott MacDonald and the Improvement Foundation who spoke to women aged 25-34 years and reasons why they did not go for a smear. The final stage investigates where women who have never had a cervical smear live so that they can be targeted effectively and change attitudes so that from an early age it becomes part of their routine for a healthy life.

Results

Section 1

Uptake by GP split by Locality

Data on local (GP practice level) cervical screening coverage and uptake was obtained through the analysis of data held by the PCT on the Exeter System/Central Operations Mersey (COM). The data analysed covered the period 2008/09 and was split by Wirral's three local health localities as there are so many GPs in Wirral and difficult to display on one chart.

Overall for Wirral coverage is shown in table 6

Table 6: NHS Wirral Cervical Screening Coverage 2008/09

Source - COM, 2008/09

Locality	Practice	25-29	30-34	
	Fiactice	years old	years old	
Wirral	All Practices	68.2%	78.7%	

For the period 2008/09 NHS Wirral did not meet the 80% target for cervical screening for women aged 25-29 and 30-34 years old. Coverage was analysed by locality to gain a more in depth picture. The 3 localities are Bebington and West Wirral, Birkenhead and Wallasey.

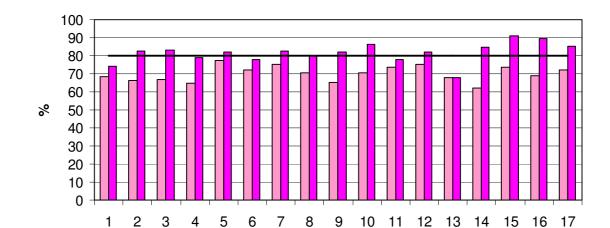
Bebington and West Wirral Locality

Bebington and West Wirral Locality has 17 GPs. The charts below show cervical screening percentage coverage for 2008/09 split by age bands 25-29 and 30-34.

Figure 8: For women aged 25-29 none of the GPS met the 80% target. The percentages and the number of women needed for the GPs to meet the target is shown in table 7 GP 14 had the lowest coverage of all Wirral practices. GP 5 had the highest coverage of all Wirral practices. Considering the size of the population in each practice, GP 6 had the highest number of women aged 25-29 needing to be screened in order to meet the 80% target.

For women aged 30-34, 9 of the 17 GPs achieved the cervical screening target of 80%. GP 15 had the highest coverage rate; GP 13 had the lowest coverage rate. The percentages for each practice and the number of women needed for GPs to meet the 80% target is shown in table 7 below. For the practices who did not meet the target they need to screen less than 40 women overall to achieve the target.

Figure 8: Bebington and West Wirral Locality – Cervical Screening Uptake 0809, % coverage for women aged 25-29 & 30-34 [Source : COM, 0809].



GP

30-34

Target

Birkenhead Locality

Birkenhead Locality has 27 GPs. The charts below show cervical screening percentage coverage for 2008/09 split by age bands 25-29 and 30-34

25-29

Figure 9; for women aged 25-29 shows only one practice (GP 24) met the 80% target. The percentages and the number of women needed for the GPs to meet the target are shown in table 7 below. Overall GP 42 had the lowest performing coverage rate in this locality. GP 25 had the highest number of women aged 25-29 to screen in order to meet the 80% target.

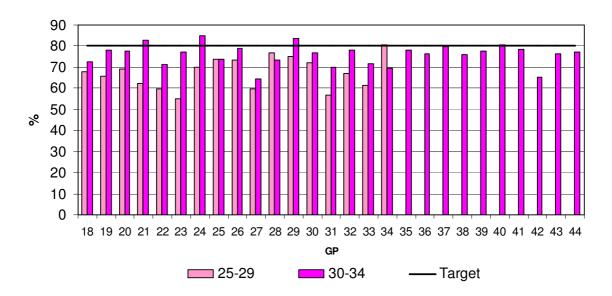
For women aged 30-34 in Birkenhead locality, only 2 out the 27 GPs achieved the cervical screening target of 80%. GP 24 had the highest coverage rate, whilst GP 42 had the lowest coverage rate for this age group. The percentages for each practice and the

number of women needed for GPs to meet the 80% target is shown in table 7 GP 22 needed to screen the most women to achieve the 80% target due to population size in that practice.

Figure 9: Birkenhead Locality – Cervical Screening Uptake 0809,

% coverage for women aged 25-29 & 30-34

Source: COM, 0809



Wallasey Locality

Wallasey Locality has 17 GPs. The charts below show cervical screening percentage coverage for 2008/09 split by age bands 25-29 and 30-34

Figure 10; women aged 25-29 shows only one practice (GP 61) met the 80% target. The percentages and the number of women needed for the GPs to meet the target are shown in table 7 Overall GP 50 has the lowest coverage rate in this locality. GP 49 had the highest number of women aged 25-29 to see in their practice to meet the 80% target.

For women aged 30-34, 6 out the 17 GPs achieved the cervical screening target of 80%. GP 61 had the highest coverage rate, whilst GP 58 had the lowest coverage rate. The percentages for each practice and the number of women needed for GPs to meet the 80% target is shown in table 7 GP 49 needed to see the most women to achieve the 80% target due to the population of that practice.

Figure 10: Wallasey Locality - Cervical Screening Uptake 0809,

% coverage for women aged 25-29 & 30-34

Source: COM, 0809

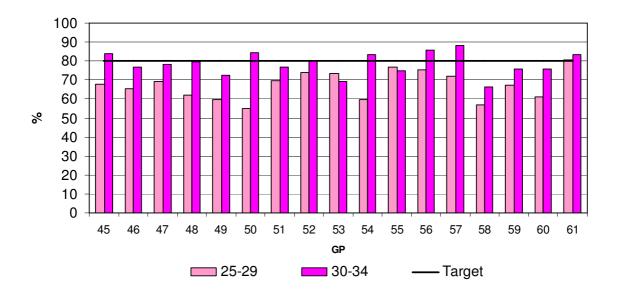


Table 7: Percentage coverage and number of women needed for the GPs to meet the target.

Source: COM, 0809

GP	Locality	% Coverage	Target/ %	Additional number needed to be screened to meet target (80%) 0809
1	Bebington	68.4	80	41
2	Bebington	66.5	80	66
3	Bebington	67.1	80	70
4	Bebington	64.5	80	77
5	Bebington	77.4	80	31
6	Bebington	71.9	80	87
7	Bebington	75.4	80	40
8	Bebington	70.7	80	100
9	Bebington	65.3	80	83
10	Bebington	70.4	80	67
11	Bebington	73.9	80	29
12	Bebington	75.5	80	17
13	Bebington	68.1	80	30
14	Bebington	62.0	80	59

15	Bebington	73.8	80	27
16	Bebington	68.8	80	44
17	Bebington	72.2	80	16
18	Birkenhead	63.1	80.0	104
19	Birkenhead	66.8	80.0	119
20	Birkenhead	71.2	80.0	72
21	Birkenhead	65.6	80.0	174
22	Birkenhead	60.9	80.0	205
23	Birkenhead	59.7	80.0	123
24	Birkenhead	80.1	80.0	
25	Birkenhead	63.2	80.0	227
26	Birkenhead	76.7	80.0	33
27	Birkenhead	69.1	80.0	45
28	Birkenhead	74.3	80.0	24
29	Birkenhead	72.2	80.0	62
30	Birkenhead	67.3	80.0	62
31	Birkenhead	63.2	80.0	100
32	Birkenhead	63.2	80.0	112
33	Birkenhead	66.0	80.0	58
34	Birkenhead	58.0	80.0	162
35	Birkenhead	68.2	80.0	90
36	Birkenhead	67.2	80.0	125
37	Birkenhead	68.1	80.0	154
38	Birkenhead	76.7	80.0	16
39	Birkenhead	74.2	80.0	36
40	Birkenhead	65.6	80.0	148
41	Birkenhead	72.5	80.0	63
42	Birkenhead	53.3	80.0	40
43	Birkenhead	74.3	80.0	15
44	Birkenhead	68.2	80.0	40
45	Wallasey	67.7	80.0	148
46	Wallasey	65.6	80.0	110
47	Wallasey	69.0	80.0	132
48	Wallasey	62.2	80.0	109
49	Wallasey	59.7	80.0	205
50	Wallasey	54.9	80.0	62
51	Wallasey	69.8	80.0	40
52	Wallasey	73.8	80.0	32
53	Wallasey	73.5	80.0	14
54	Wallasey	59.8	80.0	84
55	Wallasey	77.0	80.0	8

56	Wallasey	75.2	80.0	19
57	Wallasey	72.1	80.0	7
58	Wallasey	56.7	80.0	121
59	Wallasey	67.1	80.0	43
60	Wallasey	61.2	80.0	101
61	Wallasey	80.6	80.0	

The results of Cervical Screening uptake for women aged 25-34 years by GP practice overall show that the majority of GPs have not met the 80% target for this age group. However 2 GPs had met the target and so it was important to discover whether these practices were employing any particular methods in order to achieve the 80% target. The results from the 6 practices (interviews with smear taker and receptionist) are described in the following section under the relevant headings.

Key Messages from Section 1

- Uptake is low for cervical screening in Wirral for both age groups however this varies greatly across the patch with some GPs achieving over 80% and some achieving as low as 50% coverage.
- There is a difference in uptake of cervical screening between both age groups 25-29 years and 30-34 years. Although uptake is low in the 30-34 years group it is not as low as the 25-29 years group as the majority of GPs in this group have achieved less than 70% coverage whereas in the 30-34 years age group the majority of GPs achieve over 70%.
- This suggests that attitudes around women going for a cervical smear need to be changed at a young age to encourage more women to go earlier on and so from an early age it becomes part of life and routine.

Section 2

Questionnaires with GP practices.

Stage 2 of the research follows on from the findings in stage 1. GPs with high, medium and low coverage were identified to then be able to show examples of best practice in high coverage practices whereas GPs with low coverage were able to identify and highlight examples of practice that had not worked well. Across NHS Wirral, 6 receptionists and 6 smear takers where interviewed from the 6 GP practices chosen. This was across all GPs regardless of what locality they were in.

The questionnaires enabled the smear taker and the receptionist to identify their role in the process whilst also pointing out reasons and examples they felt why uptake was low, women didn't attend and how they felt uptake could be increased. The questionnaire was split in to section so that each point was allowed to be discussed thoroughly and analysis of the findings could be clear.

Profile of practice staff and smear takers

Of the practices interviewed, all had at least one female smear taker. Some GPs take smears on occasion although this is rare and only occurs if they feel it is necessary in a consultation. Both smear taker and receptionists interviewed felt the majority of women requested and preferred to have their smears taken by a female.

High uptake of cervical screening did not seem to be affected by whether there was one smear taker or many. This was shown clearly as the high uptake GP only had one smear taker who was a nurse in their practice whereas GPs with low uptake often had a few smear taking nurses available so there was no link to the number of smear takers available.

Provision of cervical screening

As a rule across all of the GP practices interviewed, smears are performed in pre-booked appointments. However, often when appropriate and if the woman agrees, smears are performed opportunistically during appointments for other issues.

Chaperones do not seem to be an issue in the GP practices interviewed as receptionists and practice managers have had chaperone training and so are always available if a woman requests one. A chaperone is a witness for both the patient and medical practitioner.

Opportunistic smear taking

Opportunistic smears seem to be a good approach as this was common in the high uptake GPs. GPs with low uptake however also often use this approach and feel this is the only method they have to encourage women to have a cervical smear as they do not respond to letters. Certain practices do not see this as realistic and feasible as it can make appointments over run. It does seem the best way of targeting women, as they do not have chance to become afraid and do not have chance to think about it. Smear takers and receptionists both felt this is one of the main reasons why women cancel or do not attend appointments.

Actions smear takers and receptionists feel which may encourage women to have a smear if they are not willing to have one there and then, include trying to book an appointment at an appropriate time for them, talking to the woman to reduce any fears or concerns she may have around why she needs a smear and what it involves. Reminders on prescriptions have also been effective, as well as the nurse personally ringing women so that if any questions arise she is able to answer them straight away and thus remove any myths. For one practice interviewed a nominated person who had been trained in answering cervical screening queries spent time ringing women up and booking appointments and was able to answer any questions at the same time.

A prompt on computer systems to identify women who are due for a cervical smear is on all practices systems who were interviewed and receptionists made it clear they tried to book the woman in for an appointment when a prompt showed on the computer.

Cervical smear appointments are booked for either 15 minutes or 20 minutes in the practices interviewed. However after speaking to a smear taker she felt the longer appointments i.e. 20 minutes were much better as it gave the nurse chance not to rush and the woman feel comfortable and able to ask any questions. She felt following protocol

was most important and longer appointments allowed smear takers to take their time because the issue is so sensitive.

Patient Profile

The smear takers interviewed with high uptake felt women aged 25-34 were not an issue and that the more hard to reach groups were BME, older aged women, women who have never had a smear and physically disabled. The reason they felt these groups were hard to reach was because of culture issues as influenced by family and friends, often home visits are needed and women who have never had a cervical smear often have false preconceived ideas about what actually happens. The reason they felt women aged 25-34 were not an issue was because they have already built up a rapport with women in this age group when they have come in for their first smear and so have built up a relationship and a routine around it. It was also felt women in this age group also come in for other reasons i.e. to do with their children and family planning and so have a relationship already with them on that level.

Low uptake smear takers felt the younger age groups were difficult to engage with and hard to target as well as women who have never had a smear before. The reason expressed for this was because of fear, anxiety and often younger women attend family planning clinics for contraception and so the nurse doesn't always have chance to talk with women about cervical screening. There is a perception women of this age group don't always value their own health and see it as important and often don't understand the reason and importance of why they should attend.

Across the GPs staff interviewed, all had made an attempt to encourage women to attend cervical screening and thus increase uptake. Examples of strategies that practices had felt had worked included:

- Providing resources such as pictures, instruments used so the woman can see examples of what will happen and encourage them to ask questions, thus reducing fear and anxiety.
- Target women individually, tailoring how they approached and the context and content of the conversation specifically to each woman as they are different and so need a specific approach.
- Completing a monthly audit with letters sent out from the practice to women.

Early and late surgeries.

Examples cited by practice staff which they felt were not successful included

- Clinic specialising in cervical smears not many women attended.
- Opportunistic approach can be time consuming and doesn't always work well as can set appointments back however it is the best method of increasing uptake.

• Resources to help practices

Across the practices interviewed all smear takers/receptionists had access to a range of leaflets for situations such as English not being the first language, people with learning disabilities information on alternative venues to attend for a smear which may be more convenient for the woman.

There was a lot of feedback from both receptionists and smear takers on the kind of support and ideas that they felt the PCT could provide to increase uptake. They included:

- Wirral wide campaign as cervical screening is so sensitive and there are a lot of
 myths and rumours about why you need a smear and how it is taken a myth busting
 campaign targeting the younger age groups providing them with the information
 they need so that they can make their own informed decision was suggested. It was
 also felt that campaigns could provide women with goody bags and competitions as
 an incentive.
- Often it is time consuming for staff to set up displays in surgeries and it was felt that support and help from the PCT setting them up would be useful.
- Targeting women attending for a mammogram and offering a smear at the same time.
- Childcare was raised as a main issue and concern for many women and a common reason for low uptake. It was felt that the PCT should try and tackle this to overcome childcare being a reason why women do not attend. Targeting mothers with children by providing a crèche or somewhere for children to play safely whilst the mother has her smear was suggested.
- Walk in centres to offer smears in a community setting.
- Receptionists are in most cases the first point of call for women booking or having a smear. It is therefore important that they are armed with the most up to date information to be able to answer any questions. They felt external training would be

useful.

 All practices felt that working together to tackle this issue and increase uptake is important rather individual practices working on their own.

Screening Programme

Of the receptionist and nurses interviewed, not all knew about the cervical screening programme and what they were achieving or had to achieve. Only some receptionist and nurses received updates of how they were doing. However both smear takers and receptionists all felt it would be useful for them to receive practice uptake figures and how many more women they needed to see in order to reach the target. They felt this was important as it was motivational and also that they would be recognised for doing a good job if uptake was high.

Training

In general, receptionists who were interviewed had received no training around dealing with questions about cervical screening. However, all felt it was part of their job to promote it. Many felt they would benefit from some training where they could be given the relevant information but also have chance to ask questions themselves.

Nurses do already receive training on cervical screening.

Section 3

Women who have never had a Cervical Screen

In addition to identifying which GPs are important to interview (high, medium and low uptake) and then speaking to the relevant people, the natural progression was to find out who these women are who have never had a cervical smear aged 25-34 years and highlight if there is a certain area that they live and if this was linked to deprivation. Following on from this methods of communication were identified that these women would engage with and be receptive to encourage them to attend for a cervical smear. This is stage 3 of the research.

Women aged 25-29 & 30-34 who have never had a cervical screen by GP Practice

Data was collected from Central Operations Mersey (COM) of the total number of patients in each practice in Wirral who had been invited for a cervical screen but had never attended. This was to identify who these women were and highlight which GPs had the most women that had never attended.

26 out the 60 (43.3%) GP practices who perform cervical smears have over 50 women aged 25-29 in their practice who have never had a cervical smear although they have been invited for one.

For the age group 30-34 11 out the 60 (18.3%) GPs have over 50 women in their practice who have never had a cervical smear.

In total for both age groups together 25-34 45 out the 60 (75%) GP practices have over 50 women who have been invited for a cervical screen but have never attended.

The actual numbers for the raw data is shown in table 7.

Percentage of Women who have never had a cervical screen by ward

Data was collected and analysed from COM to show the percentage of women who had been invited in each ward for a cervical screen but had never attended. For example in Bebington there were 645 women aged 25-34 who were eligible for a cervical screen however of these, 202 had never had a cervical screen meaning 31.3% of women in Bebington aged 25-34 have never had cervical screen.

Table 8: Percentage of women in Wirral eligible for a cervical screen who have never had one by Ward aged 25-34 years old.

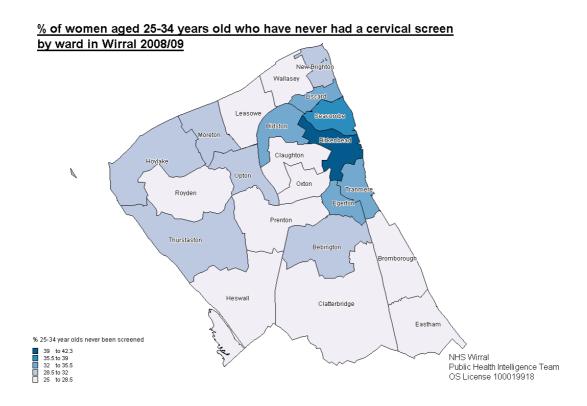
Source: COM, 0809

	Number never	% 25-34 never
Ward	been screened	been
	25-34	screened
Bebington	202	31.3
Bidston	249	34.7
Birkenhead	340	42.2
Bromborough	244	25.8
Clatterbridge	181	27.6
Claughton	202	25.1
Eastham	182	27.9
Egerton	231	32.3
Heswall	123	28.3
Hoylake	194	29.5
Leasowe	230	27.9
Liscard	253	34.0
Moreton	186	29.2
New Brighton	259	31.1
Oxton	210	25.5
Prenton	177	28.2
Royden	159	27.7
Seacombe	370	37.3
Thurstaston	174	29.4
Tranmere	310	32.6
Upton	229	28.6
Wallasey	181	26.2
Wirral	4886	30.3

The map below shows the percentage of women eligible for cervical screen in each ward who have never had one although they have been invited for one. The majority of women who have never had a cervical screen live in areas such as Birkenhead and Seacombe. This map highlights that there is a link to deprivation as Birkenhead and Seacombe are two of the most deprived wards in Wirral.

Map 1: Women aged 25-34 years old who have never had a cervical screen by Ward

Source: COM, 0809



IMD 2007 & Cervical Screening

The Index of Multiple Deprivation (IMD) 2007 combines a number of indicators, chosen to cover a range of economic, social and housing issues, into a single deprivation score for each small area in England. This allows each area to be ranked relative to one another according to their level of deprivation.

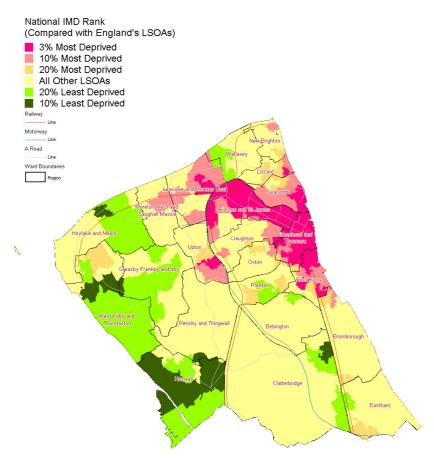
The map below shows IMD for Wirral. Areas such as Birkenhead and Tranmere have very high levels of deprivation falling in the 3% deprived areas in England.

Map 2: Wirral IMD 2007

Source: DCLG, 2007

Wirral IMD Rank

Index of Multiple Deprivation 2007



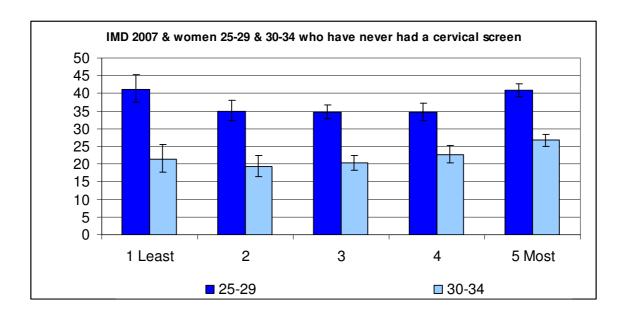
Data Source: DCLG (Department for Communities & Local Government), 2007 OS License No: 100019918 NHS Wirral

Data on women who had never been screened aged 25-29 and 30-34 was analysed to ascertain the percentage in each age group that fell into each IMD quintile. IMD 2007 ranks the least and most deprived areas into quintiles, 1 being least deprived and 5 being most deprived.

Figure 11 below shows that nearly half of women aged 25 -29 years old who have never had a cervical smear live in the least and most deprived areas of Wirral. However for women aged 30-34 years old the majority live in the most deprived areas of Wirral.

Figure 11: IMD 2007, % of women aged 25-29 and 30-34 who have never had cervical screen

Source: IMD 2007, COM



Key Messages from first part of Section 3

There are quite a large number of women on GP registers aged 25-34 years who have never had a cervical smear. This suggests that these women are from the hard to reach groups and thus not engaging with traditional methods of health promotion techniques to be encouraged to go for a smear. They therefore have to be targeted differently in a way that is suitable to them.

Map 1 also highlights this link with the hard to reach groups as of the eligible women in each ward aged 25-34 years; Birkenhead a very deprived area in Wirral has the highest percentage of women who have never had a cervical smear. Surrounding areas such as Seacombe also highlight this link to deprivation.

<u>Social Marketing - Mosaic Profile of women aged 25-34 who have never had a Cervical Screen</u>

Analysis using Mosaic Public Sector was carried out on a database of women aged 25-34 years old who have been invited to have a cervical smear but had never attended.

Mosaic Public Sector Group Descriptions

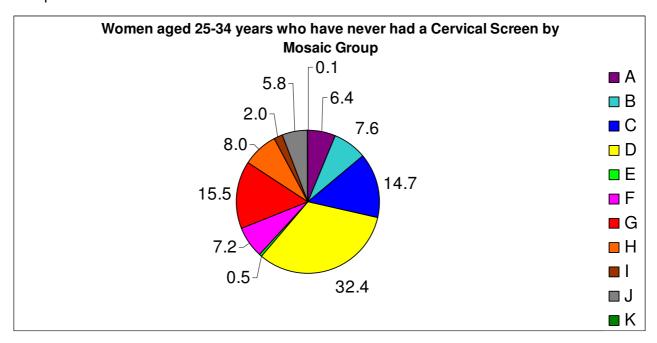
- A Career professionals living in sought after locations
- B Younger families living in newer homes
- C Older families living in suburbia

- D Close knit, inner city and manufacturing town communities
- E Educated, young single people living in areas of transient populations
- F People living in social housing with uncertain employment in areas of deprivation
- G Low income families living in estate based social housing
- H Upwardly mobile families living in homes bought from social landlords
- I Older people living in social housing with high care needs
- J Independent older people with relatively active lifestyles
- K People living in rural areas far from urbanisation

Women who have never had a cervical screen age 25-34 by Mosaic Group

Figure 12 below shows, the groups with the highest proportions of women who have never had a cervical smear are groups D and G, which is not surprising as group D makes up the highest population group in Wirral of women aged 25-34 years (28.7%). Group G is the third highest population group in Wirral of women aged 25-34 years making up 12.5% of the Wirral population.

Figure 12: Women aged 25-34 years who have never had a Cervical Screen by Mosaic Group



It is necessary to look at how the data looks in comparison to the numbers of each group found in the Wirral population – in other words – looking at how under or over represented the different groups are.

Figure 13 below is an index comparing women who have never had a cervical screen (age 25-34 years old) and their Mosaic classification to the overall Wirral population of women aged 25-34 years. If women who do not go for a cervical screen in the age group 25-34 years were identical to people in Wirral who do go for a cervical smear regularly overall in terms of their lifestyle and various socio-economic factors, the groups would all rank 100 or very close to it. Where a group ranks below 100, they are more likely to go for a cervical screen than you would expect given their numbers in the Wirral population. Similarly, where they rank above 100, they are less likely to go for a cervical screen, given their numbers in the Wirral population.

Groups E and K can largely be disregarded, because there are so few of them in the Wirral population aged 25-34 years (together they make up less than 1% of the population of Wirral).

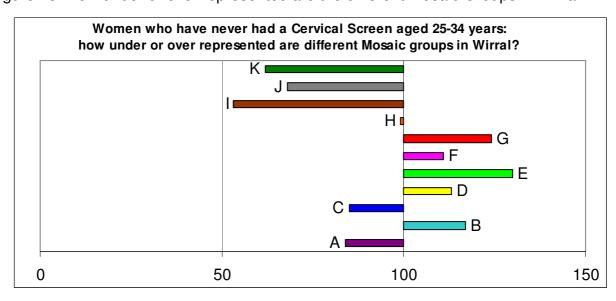


Figure 13: How under or over represented are the different Mosaic Groups in Wirral?

As figure 13 shows, the largest over-representations (greater than 100) of women who have never been screened were in Group D, Group F and Group G so therefore the women whose postcodes fall into these groups are more likely to never go for a cervical smear. Characteristics for these three mosaic groups are shown below.

Figure 14: Characteristics of 3 Mosaic Groups

Source: Experian

Group D

Key Features

Young couples Children Family close by Older houses Small industrial to

Small industrial towns

Traditional

Close knit communities Working family tax credit

Heavy drinkers/smokers

Inactive lifestyles

Communication

Receptive

Communal centres Red top newspapers

Unreceptive

Heavyweight magazines Broadsheet newspapers

Broadsheet newspapers

Group F

Key Features Communication Families Receptive Telemarketing Many young children TV (esp shopping channels) Low incomes Free school meals Leaflets, Posters, Direct mail High deprivation Red top newspapers Council housing Unreceptive Public transport Internet Heavy watchers of TV Magazines

Group G

Key Features	Communication
Families	Receptive
Low incomes	TV
Income Support	Posters
Free school meals	Telemarketing
Terraces and semis	Drop-in centres
Large council estates	Unreceptive
Outer suburbs	Internet
Bad place to live	Magazines, Newspapers
Heavy TV viewing	Telephone advice lines

These groups are characterised by a younger age profile compared to the other Mosaic groups which you would expect as we are looking at women aged 25-34 years and have broadly similar key features, with predominant methods of communication being drop in centres and through the television. All three of the groups predominate in the deprived areas of Wirral and are likely to have many other health issues, of which low uptake of cervical smears is just one.

Mosaic Group: Key Message from the data

- Women aged 25-34 from the most deprived areas in Wirral are most likely to not go for a cervical screen.
- Almost one in every three (32.4%) women who have never been for a cervical screen aged 25-34 come from Group D. This is also the most common group in Wirral of women aged 25-34 years (making up 28.7% of the population).
- The most over-represented group overall is Group G. This group is 24% more likely to have never had a cervical screen.

Women who have never had a cervical screen aged 25-34 by Mosaic Type

As mentioned above, Mosaic segments the population into 11 Groups. Each group makes up a large segment of the population however, too large a target group for most initiatives.

Narrowing the focus to look at just a few Mosaic types out of the total of 61 sub-types means it is then possible to target very discreet, manageable groups of the population and gain useful insights into behaviour and lifestyle characteristics.

When deciding which Mosaic types to target, it is necessary to balance those types with the highest actual numbers with the Mosaic types which have the highest over-representations. Below in figure 15 are the four Mosaic Types which appear to be the main types to target for any initiative aiming to encourage women aged 25-34 to attend a cervical screen.

A score of 100 on this chart would show that the number of women who have never been screened is exactly what you would expect for the number of this Mosaic type there are in the Wirral population of women aged 25-34 years. Anything above (over-represented) highlights the women in these types are very reluctant and unlikely to attend for a cervical smear.

Figure 15 below shows the Mosaic types which have the highest likelihood of never having a cervical smear in Wirral are Types D23, F37, G41 and G42. Women aged 25-34 in these Mosaic types are much more likely to have never had a cervical smear.

To illustrate this, women classed as Mosaic type D24 make up 14.4% of women aged 25-34 who have never had a cervical screen in Wirral. This Mosaic Type only makes up 10.7% of the Wirral population.

Figure 15: The mosaic types which are most over-represented in women who have never had a cervical screen aged 25-34.

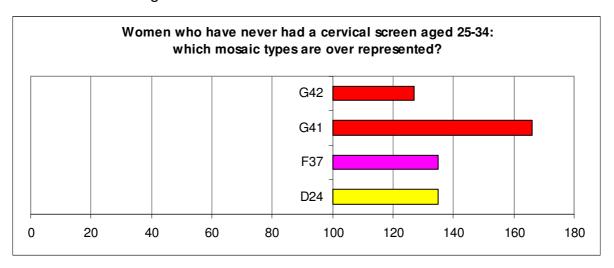


Table 9 below shows, if a project or initiative were to target all four of these Mosaic types to encourage women aged 25-34 who have never had a cervical screen to attend, this would mean targeting 22.91% of the women in that age group in the Wirral population. By concentrating this 22.91% the initiative would in fact be targeting 30.97% of women who have never had a cervical screen age 25-34. In other words, there is potential to reach 30.97% of the target age group by targeting only 22.91% of women in the 25-34 age range and therefore meet the National Cervical Screening Programme's 80% target.

Table 9 below shows the exact proportions and how many people fall in to that group thus showing how many people you could target.

Table 9: Numbers and proportions of 4 potential target Mosaic Types in Wirral for the age group 25-34.

Mosaic Type	Proportion of the Mosaic Type who have never had a cervical screen age 25-34	Proportion of the Mosaic Type in the Wirral Population	Actual numbers of the Wirral population in this Mosaic Type
D24	14.37%	10.68%	1,731
F37	5.26%	3.90%	632

G41	3.21%	1.93%	313
G42	8.13%	6.40%	1,038
Total	30.97%	22.91%	3,714

Summary of data looking at 4 Mosaic Types

The same 4 Mosaic Types are the most over-represented and have the highest proportion of women who have never had a cervical screen for both age ranges.

To target all 4 types, you would need to target quite a large proportion of women aged 25-34 years (22.91%) in Wirral but this would potentially reach 30.97% of the target age group who have never had a smear. In line with the findings in stage 1 this potentially enables a large number of GPs to reach the 80% target but also reach the hard to reach groups in Wirral at the same time. These types identified by mosaic have an overall link to deprivation as earlier research in stage 3 suggests and are receptive to specific methods of communication.

Figure 16: Key characteristics of each of the five Mosaic Types

Source: Experian

Key Features	Communication
Young working class	Receptive
Unmarried	TV
Young children	Tabloid press
Income Support	Unreceptive
High unemployment	Internet
Cheap terraces	Telephone advice lines
Provincial cities	Heavyweight magazines
Social problems	Broadsheet newspapers
Health problems	

Type F37 contains low income young couples with children who rent homes in purpose built flats from local councils in England's larger cities.

Key Features

Young families with kids Teenage pregnancies Poor child discipline Some overcrowding High unemployment Low incomes Income Support Modern city centre flats TV addicts

Communication

Receptive

TV

Telemarketing Posters Direct mail

Unreceptive

Newspapers (except red tops)

rn city centre flats Magazines

Type G41 contains large numbers of young families on very low incomes who live in extensive areas of low rise public housing on the outskirts of major provincial cities where few people have exercised their right to buy.

Key Features

Young families
Single parents
Extreme deprivation
Poorly educated
High unemployment
Income Support
Low rise public housing
Outskirts of major provincial cities

Communication

Receptive TV

Telemarketing Posters Direct mail

Unreceptive

Newspapers Magazines

Type G42 contains large numbers of people in large provincial cities, who are on low incomes and are particularly dependent on city councils for housing and for transport.

Key Features

Families
School age children
Income Support
Financial worries
Council housing
Public transport
Poor diet and health
Free school meals
Money off coupons

Communication

Receptive

TV

Telemarketing Posters

Red top newspapers

Unreceptive

Internet

Telephone advice lines Broadsheets, Magazines

These types are generally from the younger age group which is to be expected. Often they have young families therefore the health needs of the woman is not always important. The types highlighted above are also amongst the most deprived types in the mosaic classification system therefore reiterating this link with deprivation which was noted earlier. Television, the tabloids and posters seem to be an important method of communication that these types engage with and pick up important health promoting information.

Summary Information for 5 potential target groups

Below is some information on the ways the five potential Mosaic types learn about new products or services.

Table 10: Communication Methods for Mosaic Types best to target

Source – Experian

Reception to -	D24	F37	G41	G42
Catalogues	87	109	102	94
Family and friends	94	112	106	95
Free samples	97	111	111	99
Internet	96	102	104	79
Leaflets	103	124	120	110
Direct mail	100	139	138	118
Newspapers and magazines	91	110	105	100
Posters	108	144	155	125
Radio adverts	101	126	136	110
Telephone advice lines	86	93	96	73
Telemarketing calls	103	157	174	134
TV adverts	102	130	131	116
TV shopping channels	118	152	163	139
Visiting shops	91	108	101	96

This table shows how these Mosaic types are likely to find out about new things and which communication methods are most likely to appeal. Red indicates a method likely to be preferred; blue indicates a method **unlikely** to appeal. Scores of around 100 are shown in black and indicate there is little difference between this group and the England average.

As the above table shows, D24 Mosaic Type appears to be less likely to be responsive to all of the traditional methods of communication, whilst Types F37, G41 and G42 appear likely to respond to many of the methods such as direct mail, posters, television adverts and radio adverts.

Discussion

Key features of the research

The results around low uptake GPs for women aged 25-34 years suggest that this is the main area that needs to be targeted and continually targeted until uptake is improved. As stated in the literature review screening in this age group is not only important for health reasons, but also encourages women to go for a smear regularly and see it as normal and part of life as currently it is not. "It is recognised that women often give low priority to their own health needs and may need regular encouragement to attend for screening advice." [NWCSQARC, 2007, pp.8].

The results from the interviews from the practices with the smear takers and receptionists imply the main reasons for non attendance for a cervical smear were fear and embarrassment. It is often the fear of the unknown and being given the wrong information by either health professionals, family and friends that could have a negative impact on attending a smear. Athi (2002) highlights this; the media can often give negative messages to deter women from attending for a smear by giving inaccurate information. The cervical smear procedure can be very intrusive and invasive and thus very embarrassing. Women may have had bad experiences or heard of friends or family who have had a bad experience and this can be off-putting. This is inline with what Mott MacDonald 2009 suggested was the main reason for low and non attendance; they indicated that fear and embarrassment were the underlying reasons for non access of cervical screening services for women aged 25-34 in Wirral. This was fear of pain associated with having a smear test and fear of the 'unknown' coupled with the 'horror stories' they had heard from other people. Connected to this idea of fear and the unknown is lack of knowledge. Austoker (1994) identified this fear and the perceived benefits of screening have never been explained to them. Specifically, the idea of not knowing enough about the screening procedure and the reasons screening is important can lead to avoidance. Having a cervical smear is invasive and intrusive and the embarrassment associated with this was a common theme and identified as one of the main issues as reasons why women have not attended a cervical smear appointment. The Improvement Foundation Report also agreed with both Mott Macdonald and the interviews conducted with practices. They felt lack of knowledge, fear, understanding and embarrassment were the main issues. Fear of the unknown, abolishing myths and rumours through education were highlighted as ways to improve screening attendance. This can be achieved through providing the relevant information to women about how important cervical screening is, the process involved in performing a cervical smear and what the test is for and will show. One bad experience can have major repercussions as its impact can not just affect the woman involved but also friends, family and colleagues that they speak to. "Previous negative experiences not only influence the individual but also create a ripple effect, colouring the views of many others." [Lyons & Neary et al, 2009, pp.6]. Therefore if women are informed from the beginning of the truth they can make their own decisions therefore it is important to build trust and a good relationship with women before the procedure but also so that they can pass this information on. "Probably the most important individual barrier to going for a smear identified...was fear, and the most important motivating factors were knowledge and education." [Lyons & Neary et al, 2009, pp.13].

In addition to this is linked the idea of providing women with the right information and this was key in the research by Mott Macdonald. Women interviewed wanted to have a true account of what actually happened which would remove any preconceived ideas that already exist. Receptionists on virtually all occasions are the first point of call for women making an appointment for a smear. It is therefore important that they are equipped with the correct information in order to answer any questions correctly. The interviews with receptionists highlighted that they had had no formal training around being able to deal with questions about what cervical cancer is, why it is important to be screened and the importance of it. Many believed that they played a very important role in the screening process and felt training would be beneficial to them in being able to meet the needs of the women. This has not been highlighted greatly in research to date however is a very important part as noted in this research. Identifying the people who play a role in the screening process allows the correct message to be given. In line with this is providing women with a positive message about screening but also giving them the correct information as all receptionists should be spreading the same message. The Improvement Foundation Report 2009 also reinforces this idea through educating staff and raising awareness of the importance of cervical screening and its background and suggests through partnership working this can be done.

A main barrier to attending a cervical smear by women who were interviewed was their preference to be screened by a female smear taker. Seamark (1996) confirms the importance of a female smear taker always being available. However from the interviews in the GP practices with smear takers all practices have a female smear taker. This

therefore needs to be provided in the information and also in the promotional campaigns for cervical screening to women, as if this is one of the main reasons why women are not attending then it is very important to change this attitude. The Improvement Foundation Report also agreed with the importance of having a female smear taker available. The Improvement Foundation research is relatively new and are more aware of issues women have, however previous research has not highlighted or identified that changing attitudes and providing the correct information is important.

Accessibility of services and convenience of appointments was a focal point throughout this research and was also confirmed by the research from Mott MacDonald. The interviews conducted with the receptionists highlighted that this was key to why women cancelled or did not turn up for appointments. The Improvement Foundation Report felt to encourage women to attend for a cervical screen, the process must be as smooth and as simple as possible in an easy accessible place which may not need to be a GP practice but at a convenient time with childcare provided if needed. This also coincides with what women who were interviewed for the Mott MacDonald Report felt that alternative venues to a GP practice for example a mobile screening unit, workplace screening and also more flexible times either out of hours, Saturday appointments or late night opening to address time constraints. "Introducing more flexible, warm, friendly services offered in a wider range of settings. Women like the convenience of the walk-in centre and the sexual health clinics. They do not mind waiting to be seen as these flexible service centres." [Lyons & Neary et al, 2009, pp.6]. The interviews highlighted smear takers and receptionists thought the childcare issue was a barrier as they weren't able to offer a place for children to wait safely and it is not an appropriate procedure for them to be in the room. Quite a lot of women in the age group 24-34 years are mothers and so either need to attend a place that offers childcare facilities or attend appointments that are more convenient times to them. The main themes of the Improvement Foundation Report coincide with what the interviews suggest. With access to services being a main barrier then there is importance around flexibility of appointments, offering alternative venues with an opportunistic approach for example utilising walk in centres, community centres and children centres which would also provide childcare whilst women have a smear therefore also tackling another barrier. "Many of these women live life day by day, and rarely plan ahead. The ability to seize the moment and attend for a smear at a convenient time can only serve to increase uptake." [Lyons & Neary et al, 2009, pp.81].

The research has made it clear that there is a lot of women who do not attend for a cervical smear who are aged 25-34 years, but also these women feel that fear and embarrassment are valid reasons of why they do not attend. The next stage of the research was to find out who these women were who have never had a cervical smear and also where they live so that they can be targeted effectively.

75% of GP practices in Wirral have over 50 women on their GP list aged 25-34 years who have never had a cervical smear. This is a large number of women who have not been screened and potentially putting themselves at risk. Walton in the 1970s stated that "a reduction in the incidence of the disease (is) related directly to the proportion (of) women screened." [Walton et al, 1976]. Looking at table 7 in the results section, only a few GPs have over 50 women that they need to see to meet the 80% target. This suggests that by specifically targeting these women they could not only meet the 80% target but also reduce the number of women who have never had a cervical screen aged 25-34 years. In targeting these women GPs and NHS Wirral can change attitudes from the beginning providing a positive message around cervical screening and its benefits and remove any myths that may exist. They will be able to create a positive experience for a woman's first smear. These women would then be able to spread this message to friends, colleagues and family so therefore by providing the correct information a domino effect can happen.

Deprivation

Map 1 of the results section shows the percentage of women who are eligible in each ward aged between 25-34 years who have never had a cervical smear. As the map highlights, Birkenhead and the surrounding wards have the highest percentage of women eligible for a cervical smear but have never had one. The IMD chart however looks at the percentage of women who have never had a cervical screen and what IMD quintile they fall in to. There does not seem to be any link between IMD and women who have never had a cervical screen for women aged 25-29 years however for ages 30-34 years there does seem to be a slight increase in the most deprived quintiles. This is inline with map 1 looking at women eligible in each ward highlighting that Birkenhead does have a lot of women who have never had a cervical screen and also Birkenhead is quite a deprived area. This suggests that there is some inequality in coverage of the screening programme across the borough. Although the map and the IMD show two different outlooks they both do show a link with deprivation. Richard et al (2007) confirms this suggesting women in deprived areas are around 40% less likely to attend.

Social Marketing Approach and link to Deprivation

Previous government reports have stressed the importance social marketing plays through any health promotional campaign. "Good marketing makes the customer feel that if they buy the product, they will also buy into the valued benefit associated with it......success however is dependant on gaining a true understanding of the motives, needs and lives of those in the target group, developing new or revised communication materials, testing these and then improving services to better meet needs." [Lyons & Neary et al, 2009, pp.7].

The analysis from Mosaic also supports this link between deprivation and women who have never had a cervical screen. The two most deprived groups in the whole of the Mosaic classification system Groups F and G were also the two groups most likely to have never been screened. Group D also has a high number of women who have never been for a cervical screen, of the women who have never been, 1 in 3 (32.4%) come from this group.

Types D24, F37, G41 and G42 are the most over represented types therefore they are most likely women in these types who have never been for a cervical screen. By targeting the 22.91% of the Wirral population aged 25-34 years made up by these 4 Mosaic Types, any initiative would be targeting 30.97% of women aged 25-34. This would thus be targeting nearly 1 in 3 women aged 25-34 years. There is a definite link between women who have never had a cervical screen and deprivation for both age groups due to the high numbers in these types. Therefore by targeting these groups NHS Wirral and GPs would be able to target more women, increase uptake as they would be able to be more specific in promotional campaigns. Types F37, G41 and G42 seem to be the types most likely to respond to many methods of communication which could be used to inform them about and encourage them to have a cervical screen. However type D24 appear to not be as receptive as other types to any traditional methods of communication. The 3 Mosaic Types that are best 'bet' to target to encourage women who have never attended a cervical screen are types D24, G41 and G42. Although D24 does not engage very well in all methods of communication (the same as the England average) it does though make up a large proportion of the target population (10.68% of women aged 25-34) and are overrepresented. G41 and G42 engages well with all methods of communication and targeting these groups would also target a large proportion of the chosen population (1.93% and 6.40% respectively of women age 25-34).

Therefore by focusing on these 3 types, initiatives would be targeting a large percentage of women who have never had a cervical screen. This would increase uptake in this age group and also GPs would have a better chance of meeting the 80% target as they could potentially target 31%.

Summary

Overall across Wirral there is a high percentage of eligible women who have never had a cervical screen aged 25-34 and this is reflected in the low percentage coverage for cervical screening. As the literature review suggests it is import for women in this age group to be screened regularly as not only can abnormalities be treated early but also it allows women to get in to a routine about attending for a cervical smear removing any issues or concerns that they may have heard or had from an early age. It is important to be specific in who you are targeting if you want to have the biggest impact and success rate for any promotional campaign. Mosaic has allowed the types that would be successful in this campaign and have greatest impact to be brought to light whilst targeting deprivation and tackling inequality. "Cervical screening needs to be positioned as a service that enables women to get on and live their lives." [Lyons & Neary et al, 2009, pp.14].

Limitations of the Research

Limitations to the research are shown below

- The qualitative section of the research could be subject to bias. As the interviews were conducted in the interviewees workplace, this may have introduced bias as they may have felt they had to conduct themselves in a certain way and answers questions in a way they thought was expected of them.
- A neutral setting may have allowed them to be more relaxed and open. In general, PCT GP relationships are delicate at the best of times and as the interviewer was a PCT employee the interviewee may have felt slightly cautious. The interviewee may have felt suspicious of what the research was being used for although it was explained fully when they accepted to take part in the research. They may have felt that as coverage of cervical screening was low they were being interviewed due to poor performance and inability to do their job properly and may be defensive.
- There are limitations to the data as it was collected from external sources and its reliability and accuracy cannot be guaranteed.
- Another limitation is with the mosaic data used. Mosaic information is only a stereotype, people who live in similar areas tend to have similar behaviours, lifestyles etc however it is not definite to say that they will act in a certain way and be receptive to the methods of communication recommended.
- The main issue and limitation with the interviews conducted in the GP practices was ensuring truthfulness of what the interviewees are saying in relation to what they think they should be saying. This is a key limitation and needs to be taken into account throughout the research. Also it is important to always be aware that health professionals don't always have an accurate perception of what works or why women don't attend for a screen and so this needs to be taken into account too.
- There are also issues with registered and resident populations. Women who are
 registered with a GP are called for screening however if you are not registered with
 any GP then you are not called for screening and so reasons for non attendance
 may be different from women who are registered with a GP but still don't attend.

Therefore it is important that all GP populations are up to date and that people who aren't registered with a GP are encouraged to do so.

Future Research

Future research would include looking at a larger sample size of GPs across Wirral as although the sample size in this research provided valuable information a larger sample size would increase reliability. Also further focus groups with women aged 25-34 years delving into what communication methods they felt would encourage them to attend for a smear.

Link to Aims and Objectives

Aim of Research

To examine the coverage of cervical screening by GP in Wirral PCT and to investigate whether the way GPs deliver the service has an impact upon uptake and why women do not attend whilst identifying the best means to increase uptake for this age group.

The research has met the objectives set out in the beginning which were as follows.

Obectives

- Looking at coverage of cervical screening by GP for women aged 25-34 years identifying high and low uptake.
- Characteristics of the way GPs deliver the service and its link to uptake through interviews with smear takers and receptionists.
- Identifying who these women are and where they live whilst discovering best ways to target them through Mosaic Public Sector Tool to increase coverage.

Conclusion

Women aged 25-34 years who have never been screened

Overall from this piece of research it is clear to see that there is a link between women aged 25-34 years not attending for a cervical smear and deprivation. This link has been confirmed in various stages throughout this research and also reinforced in previous research identified in the literature review. In Wirral, there are higher numbers of women not attending from the more deprived areas such as Birkenhead and Seacombe than the more affluent areas.

It is important to change attitudes around cervical screening and remove any myths that do exist to enable women to see cervical screening as an important part of their health. This research has highlighted that these are the reasons why women do not attend coupled with fear and embarrassment. The research conducted has confirmed that although previous research suggests this is for all age groups it is more so true for the women aged 25-34 years in this study as this for many is their first smear and so the unknown is fear in its self.

Research from the Department of Health in Choosing Health and The Wanless Report illustrates that a social marketing approach is the best method to target women aged 25-34 years to encourage them to go for a cervical smear. Using social marketing packages such as Mosaic can identify the best methods of communication that women aged 25-34 years who have never had cervical screen are most receptive to.

Cervical Screening and GPs/Wirral PCT

The two main themes apparent that GPs and Wirral PCT could take on board to increase uptake for this age group is accessibility of services with convenient appointment times and providing training for receptionists and staff within the surgery who deal with women attending for a smear. Reasons for this include if barriers around location and timings of appointments are removed then this can reduce the reasons why women *say* they cannot attend. Training is also important as with the correct information around cervical cancer, screening and reasons why it is important to attend, staff can be equipped to deal with any difficult questions that are put to them. This is an important point as women who were interviewed through Mott Macdonald identified that they wanted to know the correct information that would then clear up any myths that currently do exist.

Research Study in Relation to Aim

The research aim was

'To examine the uptake of cervical screening by GP in Wirral PCT and to investigate whether the way GPs deliver the service has an impact upon uptake and the best means to increase uptake'

This study has looked at cervical screening uptake by GP in Wirral PCT. However as the research study developed it has not only looked at the way GPs deliver the service (through the interviews with receptionists and smear takers) but also asking why they think women do not attend for a smear. This allowed the external research to tie in with the interviews to provide a rounded outlook.

Using a social marketing approach was identified as the best means to increase uptake in this particular age group studied. To do this the women who had never had a cervical smear aged 25-34 years were identified and then methods of communication they were receptive to were discovered.

Recommendations

The research conducted has identified recommendations that if put in place could increase uptake for this particular age group studied and potentially reach the National Cervical Screening Programme Target. They include:

It is important that the findings from this equity audit should be fed back to all GPs in Wirral.

The PCT should consider using a social marketing approach to tackle the groups most at risk, focussing on the lack of understanding of the need for smears and the process involved to increase uptake, this will ensure all women fully understand all aspects of cervical cancer, cervical screening and the benefits prior to procedure through an approach which is relevant to the person being targeted.

Each GP should identify a clinical and non clinical lead to work together and be the first point of call for all women who have any questions or issues. These 2 people should regularly liaise with the PCT with regard to campaigns and increasing uptake.

The PCT to provide training for receptionists on the basics of cervical cancer, cervical screening and combating any myths or rumours that exist so that clear, consistent messages across the patch can be given.

Ensure all practice lists of eligible women are up to date and all ineligible women removed.

The PCT to work with Cervical Screening leads and GPs to ensure the screening process is as easily accessible as possible for women with flexible times and appointments whilst being opportunistic in their approach. Also to find alternative venues for women to have a cervical screen in a culturally appropriate manner i.e. female smear taker always available.

All staff involved in cervical screening to receive quarterly updates of how practices are performing with regard to uptake and number of women they need to see to reach the target. Also provide the GPs with the work done by the Improvement Foundation with regard to best practice as well as the figures and information around exception reporting.

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Appendix

Cervical Screening Coverage

Basic details (Nurse/Receptionist)
Practice name / code
Name of practice cervical screening lead
Position
Profile of practice staff and smear takers (Nurse/Receptionist)
It has been suggested that women are more comfortable having smears with a women than a mai and that women registered with practices with only male GPs are less likely to have their smears.
Q1. Do you think this is an issue in your practice? Yes
Q2. How many GPs (partners and assistants) are there in your practice? Male
Q3. How many practice nurses do you have in the practice? Full time
Q4. How many smear-takers are there in your practice? Male GPs Practice nurses
Q5. How many of these smear-takers routinely take more than 20 smears per year? Male GPs Practice nurses
Provision of cervical screening (Nurse/Receptionist)
Q6. How do you organise smear taking in your practice? (tick all that apply) Smears only taken during specific smear clinics Smear clinic available but smears can be taken at other times Smears only taken if patient has pre-booked smear appointment Smears taken during any appointment time Women referred to Family Planning Clinic for smears Other (please state)
Q7. How many morning and afternoon / evening sessions are there (out of ten) in a week when your practice has no smear-takers available?
Q8. Does the need for chaperones affect opportunities to carry out smears in your practice? Yes No Not applicable in our practice

Q9. If chaper	ones are needed and not availab	le what do you do?	
Opportunisti	ic smear taking (Nurse/Recepti	onist)	
	uggested that practices taking an n those relying solely upon the re		n to smear taking have bette
Q10. Does yo	our practice encourage opportunis	stic smear taking? No	
Q11. Do you smear?	have a prompt on your computer	system to remind you th	that a woman is overdue he
Yes		No	
	w do you identify that a woman is		
Q12. What do appointm Take the Try to fit Book an Encouraç	o practice staff do if they identify shent? (tick all scenarios that can a smear as part of that consultation her in for a smear while she is at appointment for her while she is used to book a smear appointment ease state)	someone is overdue a sapply in your practice) (None in the surgery with you	smear during a surgery Nurse only)
	her actions, if any, does your pra		
It is also sugg smears.	gested that short appointment tim	es limit opportunities to	carry out opportunistic
Q14. How lor	ng are routine appointments in yo	ur practice?	
	(mins) g do you provide for an appointm	Practice nurses ent for a booked smear	
GPs	(mins)	Practice nurses	(mins)

Patient profile (Nurse/Receptionist)

It is suggested that some groups of women are more difficult to target for cervical screening than others, for a variety of reasons. We are keen to understand the experience you have in your practice.

Q16.Which of the following groups of women, if any, do engage for cervical smears (please tick all that app	
Women 25-34 years	
Women aged 35-44	
Women aged 45-54	
Women aged 55-64	
Women aged 65 plus	
Women who have never had a smear before	
Women in black and minority ethnic groups	
Women in lower socio-economic groups	
Physically disabled women	
Women with learning disabilities	
Others (please state)	
Q18.Please state any actions your practice has taken these more difficult to reach groups, along with an	
and when were they implemented.	

	19. Please state any actions your practice has take ccessful, along with reasons you think explain the				
Res	esources to help practices (Nurse/Receptionist	t)			
Q2(20. Which of the following resources do you currer (please tick all that apply):	ntly have or h	ave utilised in your practice		
	Leaflets or other information resources for women	en whose firs	first language is not English		
	Resources to help women with learning disabilities make informed choices about smear taking				
	Information about other clinics where women can attend for a smear				
	A female staff member who is available and trained to offer information and guidance where				
	language barriers exist				
	Use of translation services e.g. Language Line to support smear-taking				
	Other (please state)				
Q2	21. What support if any do you think the PCT shou improve uptake of cervical screening locally?	ıld be providir	ng general practices to help		
Scr	reening programmes (Nurse/Receptionist)				
Q22	22. Are you aware of the national screening target	?			
Yes	es 🗌	No			
Q2:	23. Are you aware of what you are achieving?				
Yes	es 🗌	No			

Q24. Do you receive quarterly updates of how you	are doing com	pared to other practices and how	
many more women you would need to see to reach	the target?		
Yes	No		
Q25. Would you like to receive quarterly updates if	you don't alrea	ady receive them?	
Yes	No		
Q26. Are you aware that there is a low uptake for cervical screening in women aged 25-34 years?			
Yes	No		
Training (Nurse/Receptionist)			
Q27. Have you had any training to deal with question	ons regarding o	cervical screening?	
Yes	No		
Q28. Are you encouraged to promote cervical screening?			
Yes	No		
Q29. Do you think your role involves promoting cer	vical screening)?	
Yes	No		