

Cancer Equity Audit

September 2005

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Executive Summary

This equity audit was triggered by some information received at a Leeds Cancer Modernisation Team meeting suggesting NW Leeds had a lower than average rate of 2 Week Wait (urgent) referrals than Yorkshire Cancer Network. It was hypothesised that NW Patients with suspected cancer were waiting longer for diagnosis and treatment, and that this could plausibly have a negative impact on outcome.

The profile considered geographical and socio economic data relating to incidence, mortality, waiting times, stage at presentation and behavioural risks. Data was taken from the National Clinical Compendium, NYCRIS, Leeds Lifestyle Survey, Office for National Statistics and the Yorkshire and Humber Public Health Observatory Equity Profile.

Findings

Mortality

There are slight geographic variations in Cancer Mortality (both under 65 and all ages). All age mortality from Cancer is falling at the same rate in Leeds NW as the Leeds average.

For under 65s, Cancer rates fell (1995 – 2002) by 2.03% in NW Leeds, much slower than the city average of 7.28% and GOYH average of 12%. There are significant differences in Cancer Mortality at ward level within NW Leeds (both under 65 and all ages).

Although overall Cancer mortality is falling for the PCT as a whole, there are 4 wards where mortality is still increasing.

Access to treatment

Overall 21% patients are referred under 2 Week Wait. The rate of 2 week rate referrals per 100,000 population in Leeds NW is lower than the Leeds average. In turn this is lower than the YCN Average. This data needs to be age standardised, to reflect the different population structure for NW Leeds. There is an unexplained variation in rate of urgent 2 Week Wait referral across the PCTs in W Yorkshire.

Once the decision to refer through 2WW is made, the system performance is high. 92.1% of 2WW referrals are received within 24 hours (of decision to refer) and 99% of urgent referrals are seen (by LTHT) within 2 weeks. Data beneath PCT level is not available.

For almost all months, NW Leeds Patients receive treatment more quickly than the W Yorkshire average. For most months, NW Leeds exceeds its profile target of ensuring patients receive treatment within 31 days following diagnosis. Once urgent referral is made, NW Leeds patients are treated consistently quicker than W Yorkshire average.

There is geographic variation for waiting times for the major cancers across W Yorkshire, this may be reflective of different treatment centres. There is little socio economic variation within waiting times for the major cancers.

Risk Factors

There are marked socio economic, ethnic, age and sex differences in exposure to some lifestyle risk factors. People living in disadvantaged areas are more likely to smoke, eat less than 5 portions of fruit / veg, not exercise.

Stage at presentation

From available data in W Yorkshire, there are relatively few socio economic variations in stage at presentation. There is limited geographical variation in stage at presentation across the trusts in W Yorkshire. For Colon Cancer and Breast Cancer, there is an approximate 4 and 7 percentage point variation between highest and lowest across W Yorkshire. Stage data for Lung Cancer is not available.

What is the cause of inequitable outcome

There is more limited evidence to support the hypothesis that inequity in access to care (as defined by longer waiting) accounts for inequity in outcome (as defined by mortality rates).

There is no statistical correlation between the rate of urgent referrals (per 100,000 population) or:

- Incidence (breast, bowel or lung) – rate of referrals is not a function of cancer incidence
- Stage at presentation (breast or bowel) – no evidence to suggest that a low rate of urgent referral has an impact on stage at presentation.
- Mortality (either <65 or all ages) – no evidence to suggest that a low rate of urgent referrals has an impact on mortality.

There is statistical correlation between Smoking prevalence and Lung Cancer (incidence and mortality). The correlation between 5 a Day prevalence and colorectal cancer mortality is less clear. Correlation between mortality and other behavioural risks is not considered here.

1 Introduction

Cancer incidence and mortality rates are higher in areas of social deprivation. It is thought to be mainly due to differentials in exposure to known risks (tobacco / diet / inactivity) and later diagnosis due to lower uptake of screening and patients with symptoms waiting longer before going to see their GP. Inequity in outcome is a key issue for all PCTs, this is reflected in LDP and other targets:

LDP Planning Target T41

Contribute to a national reduction in cancer death rates of at least 13% in people under 75 by 2005 (compared to 1995 – 7 as baseline), targeting 20% of areas with the highest rates of Cancer.

PSA target

Tackle the social inequalities which exist in relation to death rates from cancer. The target is to achieve a reduction in the inequalities gap of at least 6% between the fifth of areas with the worst health and deprivation indicators and the population as a whole.

2 Public Health Observatory – W Yorkshire Equity Audit

Yorkshire and Humber PHO has conducted a Health Equity profile based on Breast Cancer. The **key issues** to emerge from this are:

- There are relatively few inequities in service provision across W Yorkshire - largely due to services being standardised and benchmarked to NICE guidance.
- Variations in waiting times did exist prior to the introduction of national standards
- Inequities in service access seem to have limited impact on outcome.

3 NW PCT - hypothesis

NW Leeds PCT is using health equity audit as a tool to explore equity in Cancer outcome within NW Leeds; building on the W Yorkshire audit.

This audit was triggered by some information received at a Leeds Cancer Modernisation Team meeting suggesting there were major performance issues with regard to two week waits.

It was suggested that:

- GPs were not referring appropriately using the correct forms – (Urgent Referral Forms); this was perceived to be a specific issue for NW Leeds GPs.
- The implication of this was that many NW Leeds patients with suspected cancer were not being viewed as urgent by Yorkshire Cancer Centre (LTHT) – compared to other PCTs in Leeds and across W Yorks, and were waiting longer to get into the system for diagnosis and treatment.

A plausible conclusion to this was a more advanced stage at diagnosis, and poorer outcome for NW Leeds Patients. NW PCT undertook to conduct an equity audit in this area to test the above hypothesis.

The objectives of this audit were:

- To provide local corroboration to the W Yorkshire Equity Audit
- To conduct equity profiling locally, leading to the development of a comprehensive plan for addressing any identified inequities or other issues:
 - To ascertain whether there are inequities in incidence, service provision, access, exposure to risk factors or outcome within NW Leeds.
 - Encourage earlier presentation to primary care for patients with symptoms that may be as a result of Cancer.
 - Ensure NW practices are systematically and consistently following NICE guidelines to ensure best practice in GP referral

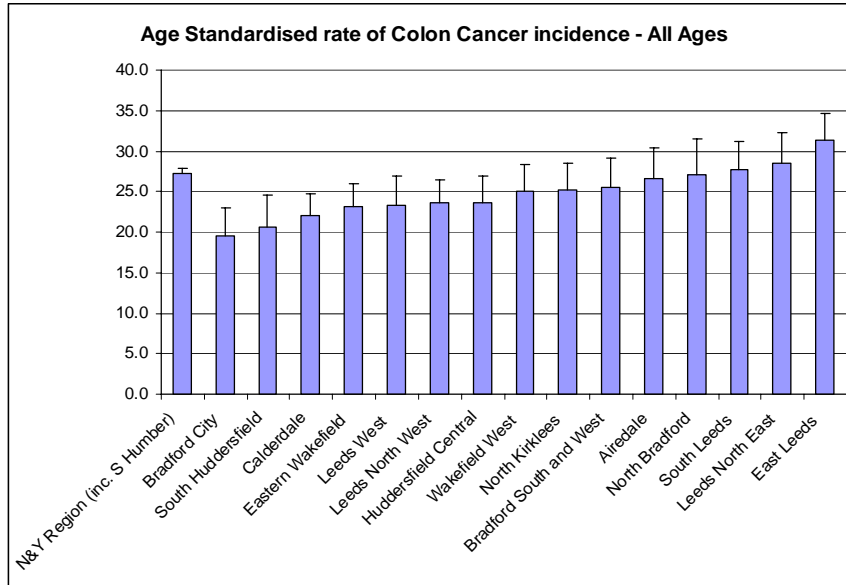
Dimensions of equity profile

Theme	Cancer (all sites)
Area	NW Leeds PCT – practice population
Dimensions of Equity	Deprivation (as measured by ward / DETR Index of Multiple Deprivation and Deprivation Decile)
	Ethnicity (where data available)
Measure of need	incidence rates
	Mortality rates
	waiting times – referral to diagnosis
	Waiting times – diagnosis is to treatment
	% patients receiving treatment
	stage at presentation
	uptake of preventive services / behaviours

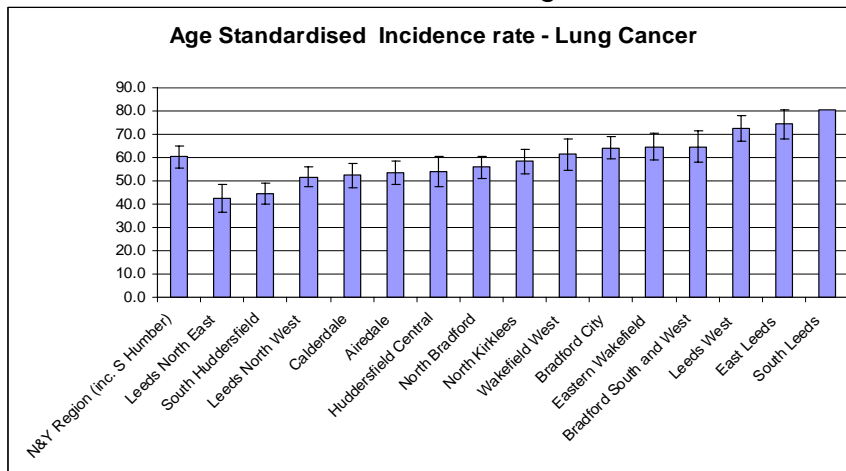
4 Equity Profile

a Cancer incidence

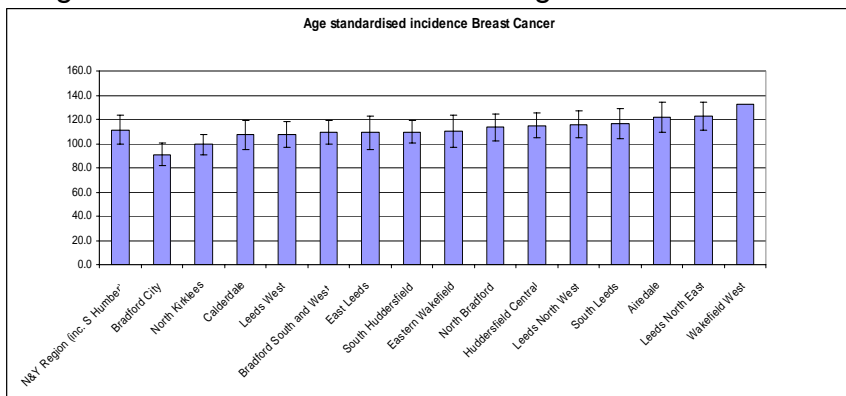
For each of the 3 major cancers (Colon, Breast, Lung), there are statistically significant geographic differences in incidence rate, as shown below¹.



Colon cancer incidence is 1.6 times higher in E Leeds than in Bradford City.



Lung Cancer incidence is 1.8 times higher in S Leeds than in Leeds NE



Breast Cancer is 1.4 times higher in Wakefield West than Bradford City

¹ Data from YPHO Audit. Data is age standardised incidence, all ages, 5 year rolling average

b Mortality
i PCT Level

All Ages

There are inequities in age standardised cancer mortality between PCTs in Leeds. NE and NW PCT show lower overall Cancer mortality than the Leeds average.

Within NW Leeds, Cancer mortality (all ages) fell 4.07% between 1995 and 2002. The Leeds average change in the same time period was a 4.1% fall.

3 year Rolling Averages - Directly Age Standardised Rates² for All Cancers, All Ages per 100,000									
Ward Code	2000 Index of Multiple Deprivation		1995 to 1997	1996 to 1998	1997 to 1999	1998 to 2000	1999 to 2001	2000 to 2002	%age change
GOYH			211.2	208.75	205.7	201.16	196.96	195.49	-7.4%
West Yorkshire			259.39	258.54	258.29	252.41	247.03	242.31	-6.5%
LEEDS	25.78		205.95	201.52	203.18	199.90	200.71	197.50	-4.10%
NW PCT	13.05		188.30	186.28	191.05	185.77	186.60	180.63	-4.07%
NE PCT	25.37		179.35	171.90	176.47	178.65	185.27	178.03	-0.74%
W PCT	26.23		211.46	207.67	210.87	205.87	212.88	208.28	-1.50%
S PCT	30.55		222.62	219.15	214.55	213.05	209.98	210.84	-5.29%
E PCT	36.04		225.86	219.91	219.97	215.09	210.97	211.31	-6.44%

Mortality in under 65s

Overall Cancer mortality among under 65s is more than 50% lower than the whole population (as would be expected).

However, Cancer mortality is not falling in NW Leeds among under 65s as fast as it is in the whole Leeds population.

3 year Rolling Averages - Directly Age Standardised Rates³ for All Cancers in Under 65s per 100,000									
Ward Code	2000 Index of Multiple Deprivation		1995 to 1997	1996 to 1998	1997 to 1999	1998 to 2000	1999 to 2001	2000 to 2002	%age change
GOYH			84.04	81.45	77.29	75.31	74.1	73.92	-12%
West Yorkshire			84.34	79.75	79.06	77.48	76.81	75.91	-9%
LEEDS	25.78		81.49	78.16	78.03	76.04	76.91	75.56	-7.28%
NW PCT	13.05		74.87	70.39	71.74	70.19	73.07	73.35	-2.03%
NE PCT	25.37		73.43	68.81	69.68	66.52	70.70	66.72	-9.14%
W PCT	26.23		86.57	83.00	80.86	76.97	77.75	77.98	-9.91%
S PCT	30.55		83.65	85.80	85.51	83.52	85.46	82.05	-1.91%
E PCT	36.04		89.45	83.03	81.75	82.01	78.25	77.62	-13.23%

² European Directly Age Standardised Mortality Rates for All Cancers (Malignant Neoplasms) (see appended notes). Data taken from the National Compendium of Clinical and Health Outcome Dataset

³ As above

Summary - Cancer mortality at PCT Level

There are slight geographic variations in Cancer Mortality (both under 65 and all ages). These are broadly correlated to the DETR Index of Multiple Deprivation.

All age mortality from Cancer is falling at the same rate in Leeds NW as the Leeds average.

For under 65s, Cancer rates fell (1995 – 2002) by 2.03% in NW Leeds, much slower than the city average of 7.28% and GOYH average of 12%.

ii Ward Level mortality

When examined at ward level; the correlation between deprivation (as measured by the 2000 Index of Multiple Deprivation) and cancer mortality is clear.

Increasing deprivation is clearly linked to increased mortality rate. The Age Standardised rate is higher in wards with high deprivation. This is seen both in data for mortality at all ages and data for cancer mortality in under 65s.

3 year Rolling Averages - Directly Age Standardised Rates for All Cancers and All Ages per 100,000								
Ward Name ⁴	2000 Index of Multiple Deprivation	1995 to 1997	1996 to 1998	1997 to 1999	1998 to 2000	1999 to 2001	2000 to 2002	%age change
Horsforth	6.89	184.34	188.48	186.43	178.55	164.48	161.03	-12.65%
Otley and Wharfedale	8.80	149.09	162.92	155.56	159.52	174.56	167.29	12.21%
Aireborough	10.15	191.05	179.07	198.92	185.89	189.39	162.64	-14.87%
Cookridge	12.07	149.23	167.54	173.29	172.60	156.90	182.13	+22.05%
Weetwood	15.71	184.05	168.71	164.22	156.59	172.63	194.78	+5.83%
Headingley	16.17	261.22	265.94	250.06	236.96	234.56	223.70	-14.36%
Kirkstall	29.22	231.73	205.42	231.14	227.33	244.61	214.10	-7.61%
University	47.76	263.74	227.49	245.88	235.72	228.39	192.15	-27.14%
City and Holbeck	55.41	265.88	242.71	220.90	230.43	250.88	267.38	+0.57%
NW PCT	13.05	188.30	186.28	191.05	185.77	186.60	180.63	-4.07
LEEDS	25.78	205.95	201.52	203.18	199.90	200.71	197.50	-4.10%

Analysis of Cancer mortality in under 65s.

3 year Rolling Averages - Directly Age Standardised Rates for All Cancers and Under 65s per 100,000								
Ward Name	2000 Index of Multiple Deprivation	1995 to 1997	1996 to 1998	1997 to 1999	1998 to 2000	1999 to 2001	2000 to 2002	%age change
Horsforth	6.89	67.61	67.02	74.25	73.45	61.61	60.91	-9.91%
Otley and Wharfedale	8.80	59.93	55.02	45.45	49.37	64.16	60.90	+1.62%
Aireborough	10.15	73.52	68.58	76.07	77.82	80.58	70.30	-4.38%
Cookridge	12.07	68.33	69.92	69.86	63.48	61.24	84.11	+23.10%
Weetwood	15.71	72.94	75.46	68.83	61.42	64.75	79.44	+8.91%
Headingley	16.17	125.42	129.09	92.37	82.51	73.52	90.03	-28.21%
Kirkstall	29.22	86.63	63.83	88.09	86.51	111.03	94.94	+9.59%
University	47.76	108.21	79.06	96.92	92.59	97.94	70.99	-34.40%
City and Holbeck	55.41	95.09	101.68	102.52	103.20	113.77	109.87	+15.54%
NW PCT	13.05	74.87	70.39	71.74	70.19	73.07	73.35	-2.03%
LEEDS	25.78	81.49	78.16	78.03	76.04	76.91	75.56	-7.28%

Summary for Cancer mortality at Ward Level

There are significant differences in Cancer Mortality at ward level within NW Leeds (both under 65 and all ages). These are broadly correlated to the DETR Index of Multiple Deprivation.

Although overall Cancer mortality is falling for the PCT as a whole, there are 4 wards where mortality is still increasing, the largest rates of increase being in more deprived wards. For both all ages and under 65s, rate of mortality increased in Cookridge ward.

⁴ It should be noted that there are ward boundary changes that have come into effect since this data was collected.

C Equity in treatment

One plausible explanation for the variations in Cancer Mortality is that there is inequitable access to treatment, leading to Cancer being more progressed at diagnosis, with poorer prognosis.

NICE has set out clear guidelines and timescales for care to be in place. These guidelines are currently being reviewed, it is expected that the review will be complete in 2007. The Cancer treatment system in Leeds is monitored according to how well it is compliant with the NICE guidelines. An overview of the system is set out in Appendix 2.

i Primary Care

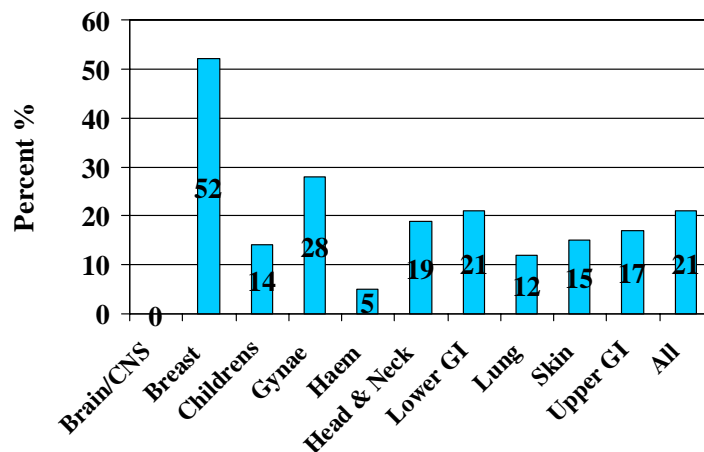
Referral to diagnosis (14 Days)

How are patients getting into the treatment system?

Relatively few patients are referred into Yorkshire Cancer Centre (LTHT) under the 2 week wait guidelines, this is not just an issue specific to NW Leeds.

When data is examined as to the proportion of **all** patients that get into treatment through the 2 week referral route, it is clear that only 21% of new cancers come into YCN from this route (q1 2004 data for Leeds)⁵.

Proportion of New Primary Cancers originating as
2WW Urgent Referral*



Relatively more patients diagnosed with Breast Cancer and Gynae cancers are referred under 2 Week Wait, this may be a reflection of the screening programmes – and their ability to give a clear indication to a GP.

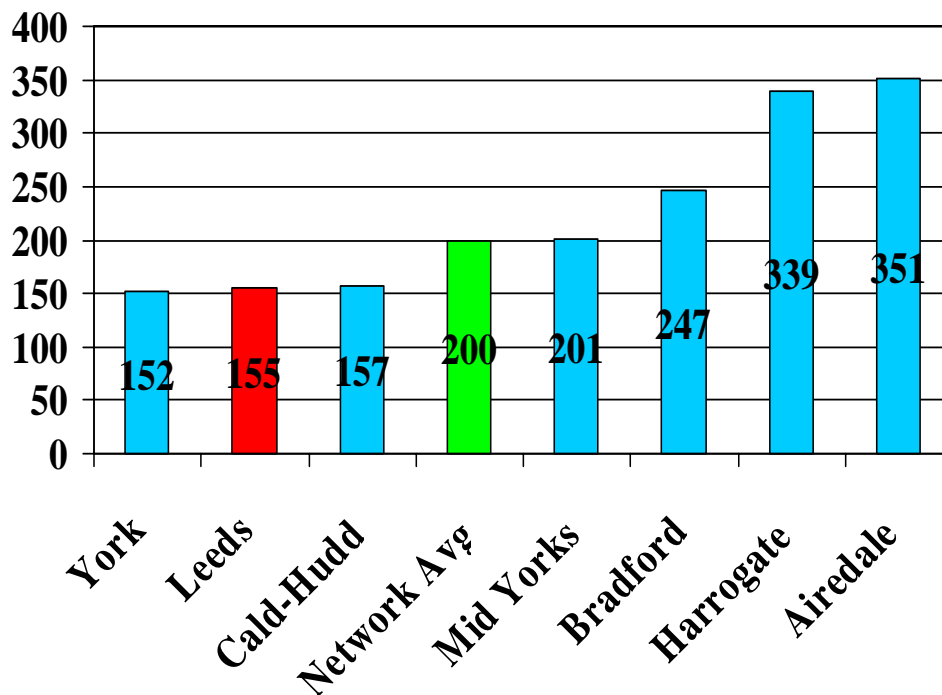
⁵ Martin Waugh, YCN. Cancer Waiting Time Data, PCT Presentation (presented to the Cancer Modernisation Team Oct 2004)

Rate of Urgent Referrals – 2 Week Wait⁶

A YCN / LTHT audit⁷ concluded there were significant delays in referral some of which can be attributed to primary care. These delays are possibly due to GPs not using the correct (2 Week Wait / fast track referral form). Leeds as a whole has a low rate of referral under 2 Week Waits.

The low number of patients coming in through 2 Week Wait is further corroborated through examination of the rate of 2 week referrals per 100,000 population from PCTs in Leeds, and between Leeds and the Cancer Network Average.

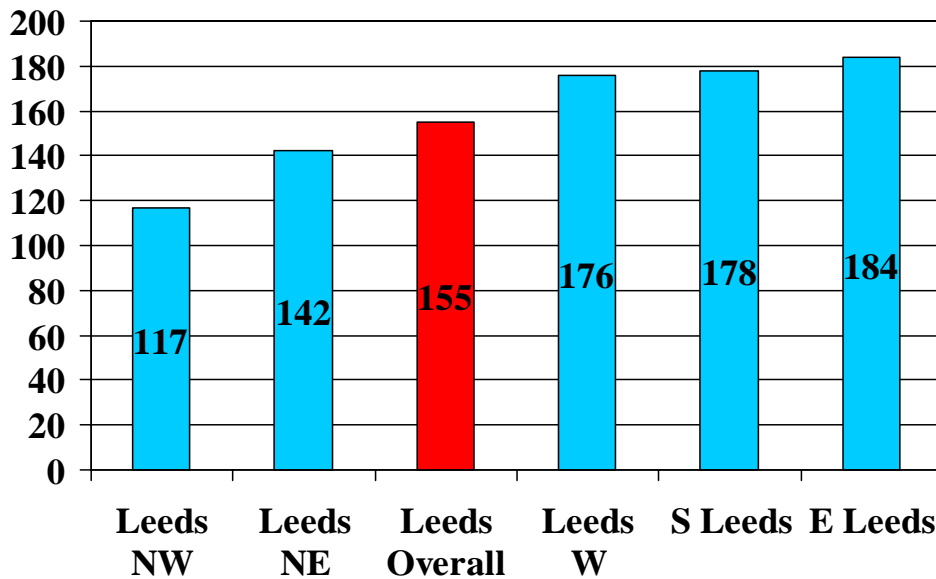
YCN Comparison of 2WW Referrals per 100,000 population



⁶ On suspecting Cancer, GPs have been asked to make an **urgent referral using the 2 week wait referral form**. This is based on NICE guidance and contains a minimum data set. Once the decision to refer has been made, the GP must make the referral within 24 hours and LTHT must see the patient and make a diagnosis within 2 weeks.

⁷ Martin Waugh, YCN. Cancer Waiting Time Data, PCT Presentation (October 2004)

PCT Comparison of 2WW Referrals per 100,000 population



When considered at PCT level, age standardisation will have a significant bearing on the Leeds rate. The Yorkshire Cancer Centre have indicated that it is not possible to age standardise the original data on the 2 Week Wait referral rate (as presented above). The data that was collected for the original audit was anonymised, the only age relevant data was either a paediatric or adult cancer.

For Leeds NW specifically, the population structure in NW Leeds is significantly different to other PCTs. 23.3% (n=32,514) of Leeds North West Primary Care Trust aged 16-74 years (N=139,548) are students compared to the national average of 6.93%.

LTHT have indicated that they are unable to give us any information about which practices are in breach of the 2 WW guidelines, this data is held on individual systems in practices.

Therefore we do not currently know whether it is some practices that are not referring using the 2 week wait form, or whether this is consistent across the whole PCT.

**Performance of LTHT in terms of meeting 2 Week Wait Standard –
specifically urgent referrals -patients that have been referred with
the 2WW form.**

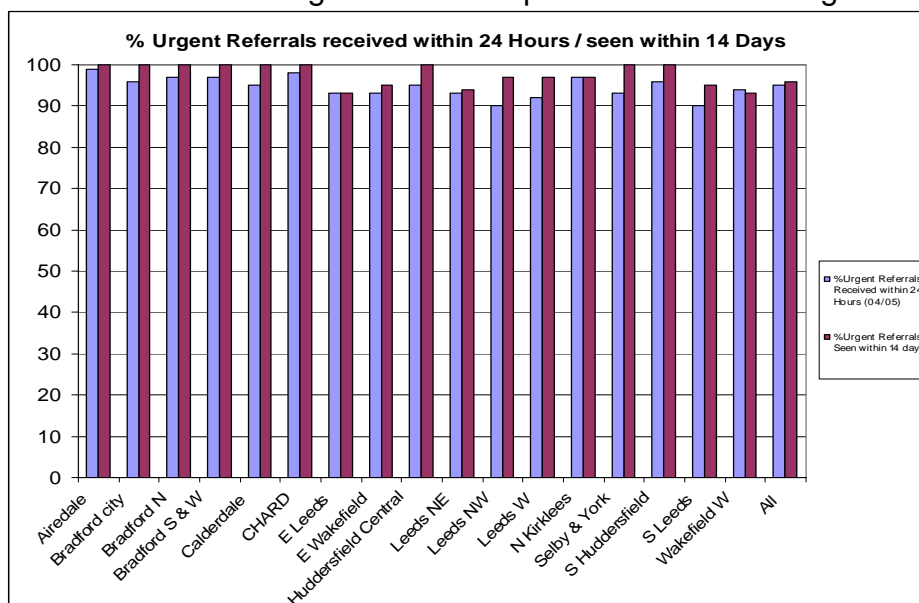
Once the decision to refer is made by a GP using the 2 week wait form, consistently more than 90% of forms are received by LTHT within 24 hours, more than 90% are seen within 2 weeks.

Leeds wide data presented to the Cancer Modernisation Team⁸ suggests that 94.8 (2003/04) and 92.5% (2004 / 05) of referrals that are made using the 2 Week Wait form meet the guidelines.

Target	2003/04			2004/05		
	Met	Breach	% Met	Met	Breach	% Met
2WW 14 Day (within 24hrs)	3172	171	94.8	1639	133	92.5
31 Day Target	2188	285	88.5	1116	108	91.2
62 Day Target	364	158	69.7	183	71	72.0

NB 04 / 05 data is not complete.

In addition, data presented to the YCN Primary Care Group in May 05 corroborates there is a high level of compliance with national guidelines.⁹



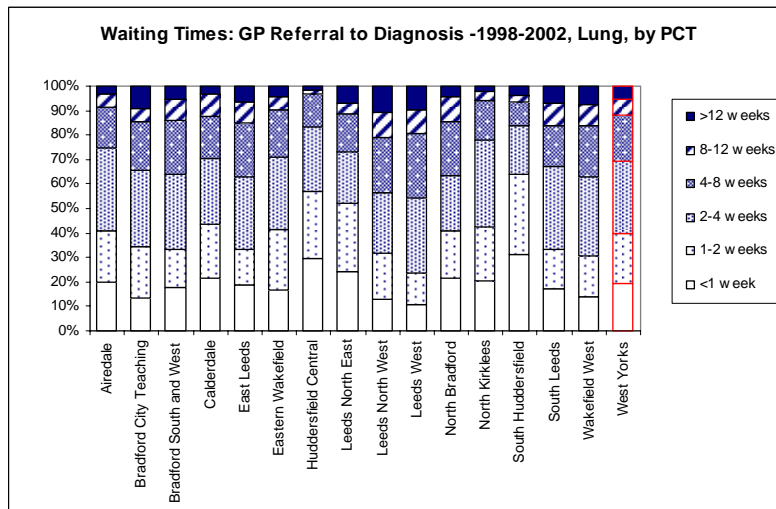
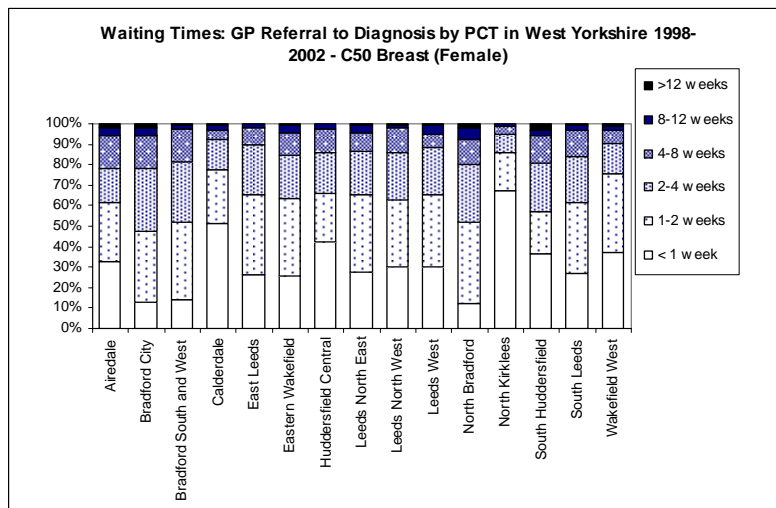
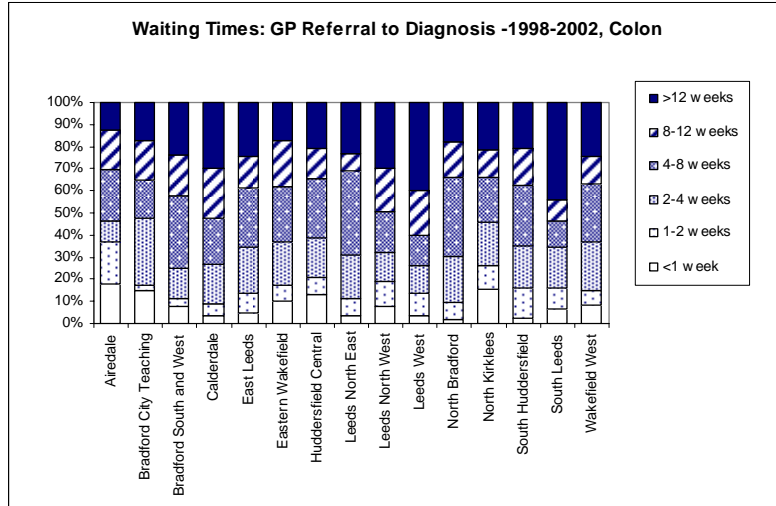
- **90% of urgent referrals were received within 24 hours within NW**
- **97% of urgent referrals within NW Leeds were seen within 14 days within NW**

⁸ Martin Waugh, YCN. Cancer Waiting Time Data, PCT Presentation (October 2004)

⁹ YCN Primary Care Group data – May 05. NB this data was presented to the YCN Primary Care Group as confidential

Geographical variation in waiting times – ALL patients (ie all referral routes)

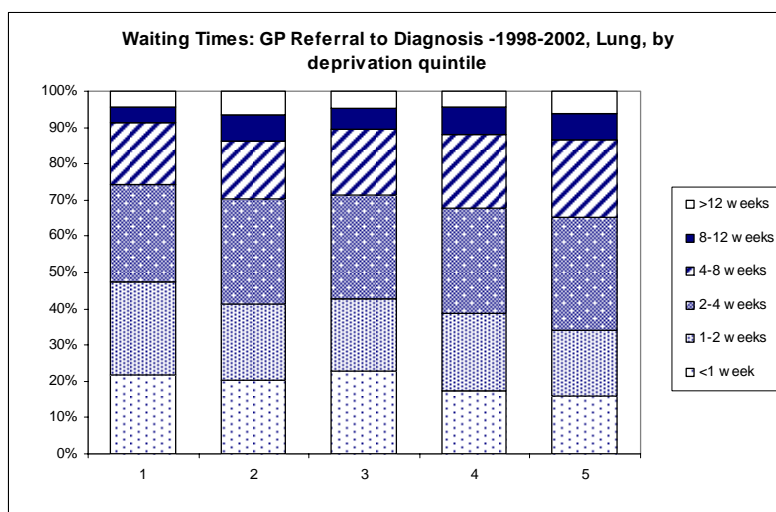
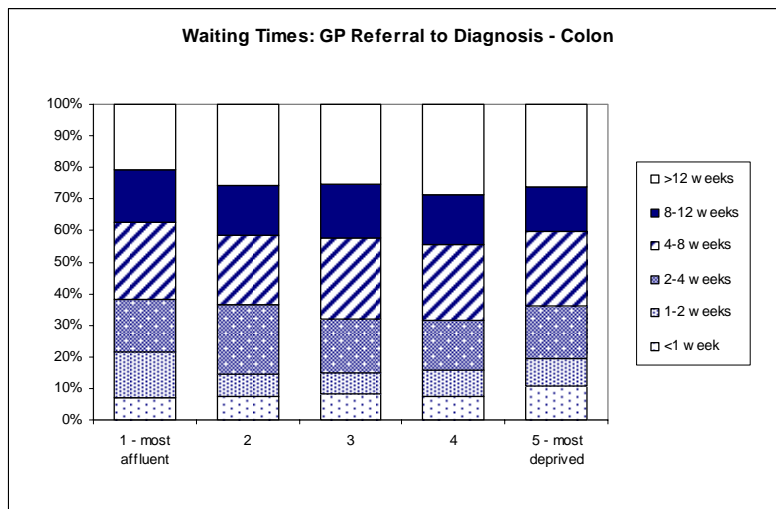
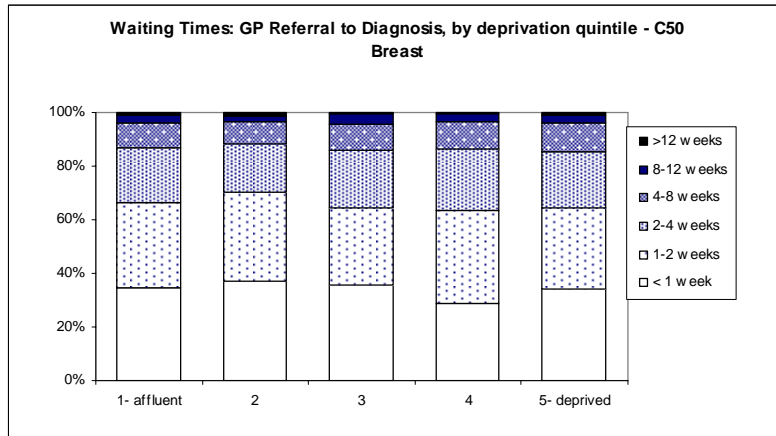
There are variations across W Yorkshire with regard to waiting times for cancer. The YPHO Equity Profile¹⁰ shows this clearly for the 3 main cancers (Colon, Breast and Lung). The data below shows waiting times for ALL referrals (not just those that have come in as a 2 Week Wait Urgent Referral):



¹⁰ YPHO, 2005.

Socio Economic variation

There is little data to support a hypothesis that waiting times for GP referral to diagnosis, or diagnosis to treatment show any socio economic inequity¹¹. Data taken from the W Yorkshire Equity Profile for Cancer demonstrate that for breast cancer, colon cancer and lung cancer there is relatively little socio economic variation in waiting times for care:



¹¹ NB West Yorkshire wide data

Summary for access to treatment from Primary Care

Overall relatively few patients are referred under 2 Week Wait. Diagnosis could plausibly be slower as only 21% of new cancers come in as 2 Week Wait Referrals.

The rate of 2 week rate referrals per 100,000 population in Leeds NW is lower than the Leeds average. In turn this is lower than the YCN Average. This data needs to be age standardised, to reflect the different population structure for NW Leeds.

It would appear that there is an unexplained variation in rate of urgent 2 Week Wait referral across the PCTs in W Yorkshire.

Once the decision to refer through 2WW is made, the system performance is high. 92.1% of 2WW referrals are received within 24 hours (of decision to refer) and 99% of urgent referrals are seen (by LTHT) within 2 weeks.

Use of 2 week referral forms is inconsistent for different cancer sites, probably reflecting typical presentation of symptoms

It is not known whether some groups in NW Leeds (as defined by ethnicity, sex or geography (Practice)) have inequitable rates of 2 week referral) access to treatment compared with average.

It is known that Leeds GPs do not make best use of the 2 Week Wait Referral forms to refer suspected cancer patients. There are a number of other plausible explanations to explain the lower referral rate within NW Leeds, most clearly linked to our unique age structure.

When ALL referrals are considered (2 WW and other), there are geographic variations in waiting time (across W Yorkshire) – probably reflecting provider variations, but relatively little socio economic variations in waiting times.

ii Diagnosis to Treatment 31 Days – secondary care

According to the NICE guidelines, **following an urgent referral**, patients should receive their treatment within 31 days of diagnosis. The performance data for this is given below.

	Actuals	Apr 2004	May 2004	Jun 2004	Jul 2004	Aug 2004	Sep 2004	Oct 2004	Nov 2004	Dec 2004	Jan 2005
5AW	Airedale PCT	96%	97%	96%	97%	95%	96%	90%	98%	97%	96%
5CF	Bradford City PCT	95%	93%	100%	94%	100%	94%	97%	100%	100%	78%
5CG	Bradford South & West PCT	97%	94%	98%	95%	93%	93%	92%	94%	98%	87%
5CH	North Bradford PCT	100%	93%	88%	92%	90%	91%	95%	100%	83%	94%
5E7	Eastern Wakefield PCT	81%	83%	96%	92%	73%	78%	88%	80%	81%	76%
5E8	Wakefield West PCT	86%	88%	86%	81%	91%	80%	79%	86%	79%	89%
5HH	Leeds West PCT	88%	92%	89%	100%	90%	95%	93%	73%	86%	77%
5HJ	Leeds North East PCT	92%	95%	96%	96%	94%	94%	89%	96%	86%	90%
5HK	East Leeds PCT	96%	90%	97%	100%	92%	91%	96%	85%	94%	87%
5HL	South Leeds PCT	94%	89%	81%	95%	93%	94%	93%	75%	85%	87%
5HM	Leeds North West PCT	89%	100%	97%	100%	95%	100%	91%	79%	93%	82%
5J6	Calderdale PCT	96%	98%	98%	96%	100%	92%	98%	98%	98%	91%
5J7	North Kirklees PCT	81%	86%	86%	95%	85%	86%	90%	98%	75%	87%
5LJ	Huddersfield Central PCT	96%	100%	87%	100%	93%	90%	97%	90%	94%	91%
5LK	South Huddersfield PCT	89%	95%	100%	86%	88%	100%	94%	100%	100%	100%
Q12	West Yorkshire Total	92%	92%	93%	94%	91%	90%	91%	90%	89%	87%

	Profiles	Apr 2004	May 2004	Jun 2004	Jul 2004	Aug 2004	Sep 2004	Oct 2004	Nov 2004	Dec 2004	Jan 2005	Feb 2005	Mar 2005
5AW	Airedale PCT	93%	93%	97%	97%	97%	90%	90%	90%	93%	93%	93%	96%
5CF	Bradford City PCT	95%	95%	97%	97%	97%	100%	100%	100%	100%	100%	100%	99%
5CG	Bradford South & West PCT	92%	92%	95%	95%	95%	93%	93%	93%	95%	95%	95%	95%
5CH	North Bradford PCT	91%	91%	94%	94%	94%	94%	94%	94%	98%	98%	98%	94%
5E7	Eastern Wakefield PCT	89%	89%	85%	85%	85%	91%	91%	91%	93%	93%	93%	94%
5E8	Wakefield West PCT	92%	92%	87%	87%	87%	92%	92%	92%	92%	92%	92%	93%
5HH	Leeds West PCT	92%	92%	91%	91%	91%	85%	85%	85%	87%	87%	87%	88%
5HJ	Leeds North East PCT	93%	93%	94%	94%	94%	100%	100%	100%	100%	100%	100%	100%
5HK	East Leeds PCT	89%	89%	95%	95%	95%	98%	98%	98%	100%	100%	100%	100%
5HL	South Leeds PCT	86%	86%	84%	84%	84%	93%	93%	93%	91%	91%	91%	91%
5HM	Leeds North West PCT	97%	97%	94%	94%	94%	95%	95%	95%	96%	96%	96%	99%
5J6	Calderdale PCT	89%	89%	96%	96%	96%	97%	97%	97%	90%	90%	90%	92%
5J7	North Kirklees PCT	90%	90%	86%	86%	86%	88%	88%	88%	91%	91%	91%	92%
5LJ	Huddersfield Central PCT	91%	91%	93%	93%	93%	90%	90%	90%	92%	92%	92%	91%
5LK	South Huddersfield PCT	85%	85%	95%	95%	95%	84%	84%	84%	87%	87%	87%	89%
Q12	West Yorkshire Total	91%	91%	92%	92%	92%	93%	93%	93%	94%	94%	94%	94%

For almost all months, NW Leeds Patients receive their treatment more quickly than the W Yorkshire average.

For most months, NW Leeds exceeds it's profile target of ensuring patients receive treatment within 31 days following diagnosis

iii primary and secondary care - Urgent Referral to Treatment (62 days)

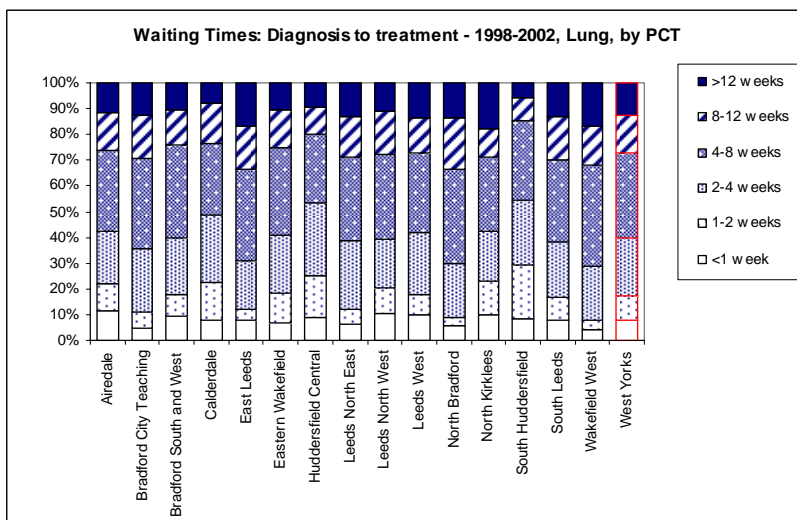
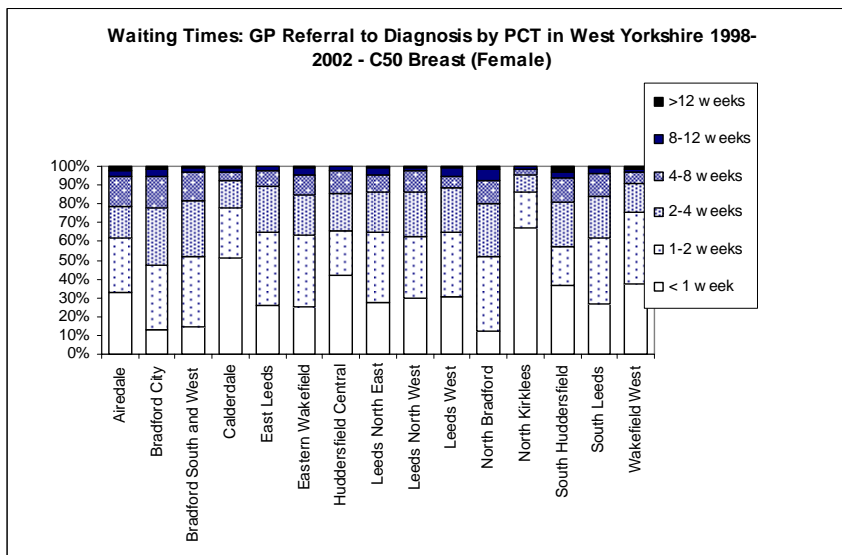
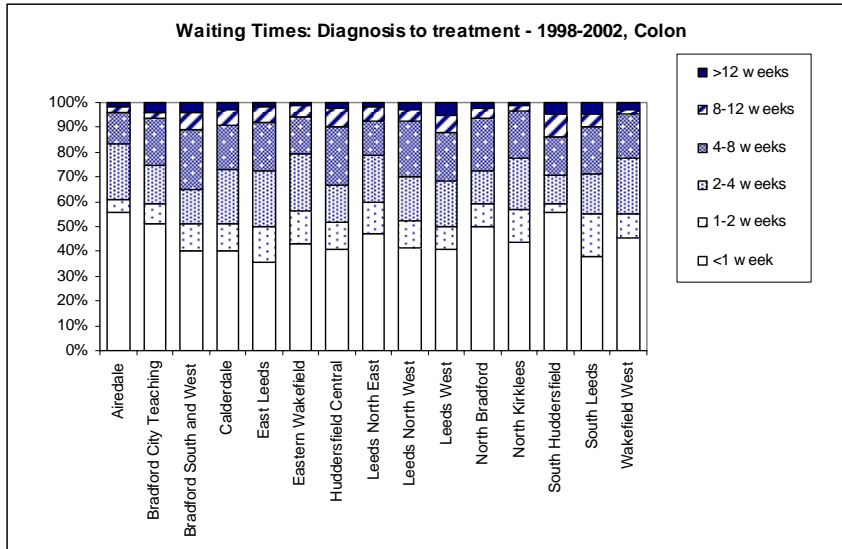
The data below gives an indication of the proportion of patients that receive their first definitive treatment for Cancer; **following an urgent referral** within 62 days.

	Actuals	Apr 2004	May 2004	Jun 2004	Jul 2004	Aug 2004	Sep 2004	Oct 2004	Nov 2004	Dec 2004	Jan 2005
5AW	Airedale PCT	100%	82%	100%	78%	69%	86%	65%	79%	100%	75%
5CF	Bradford City PCT	83%	86%	100%	100%	80%	83%	63%	75%	100%	57%
5CG	Bradford South & West PCT	64%	71%	82%	71%	69%	54%	83%	70%	87%	77%
5CH	North Bradford PCT	86%	73%	50%	80%	75%	36%	62%	64%	29%	64%
5E7	Eastern Wakefield PCT	75%	67%	100%	77%	47%	69%	70%	64%	62%	73%
5E8	Wakefield West PCT	67%	78%	77%	75%	94%	65%	42%	83%	64%	75%
5HH	Leeds West PCT	86%	100%	71%	67%	100%	88%	80%	67%	71%	60%
5HJ	Leeds North East PCT	89%	92%	60%	57%	75%	67%	77%	100%	43%	90%
5HK	East Leeds PCT	71%	100%	80%	100%	88%	83%	67%	82%	83%	63%
5HL	South Leeds PCT	60%	100%	75%	71%	67%	56%	83%	67%	78%	50%
5HM	Leeds North West PCT	80%	85%	86%	80%	83%	100%	88%	85%	88%	50%
5J6	Calderdale PCT	69%	67%	100%	86%	44%	67%	77%	88%	70%	86%
5J7	North Kirklees PCT	67%	60%	71%	57%	80%	88%	94%	92%	67%	67%
5LJ	Huddersfield Central PCT	78%	67%	50%	67%	82%	67%	80%	86%	85%	83%
5LK	South Huddersfield PCT	80%	70%	75%	57%	50%	55%	83%	83%	67%	100%
Q12	West Yorkshire Total	78%	78%	78%	74%	74%	69%	73%	79%	74%	71%

	Profiles	Apr 2004	May 2004	Jun 2004	Jul 2004	Aug 2004	Sep 2004	Oct 2004	Nov 2004	Dec 2004	Jan 2005	Feb 2005	Mar 2005
5AW	Airedale PCT	73%	73%	94%	94%	94%	100%	100%	100%	100%	100%	100%	100%
5CF	Bradford City PCT	63%	63%	85%	85%	85%	100%	100%	100%	100%	100%	100%	100%
5CG	Bradford South & West PCT	60%	60%	73%	73%	73%	79%	79%	79%	82%	82%	82%	84%
5CH	North Bradford PCT	56%	56%	70%	70%	70%	75%	75%	75%	81%	81%	81%	90%
5E7	Eastern Wakefield PCT	70%	70%	75%	75%	75%	79%	79%	79%	84%	84%	84%	89%
5E8	Wakefield West PCT	82%	82%	72%	72%	72%	80%	80%	80%	85%	85%	85%	87%
5HH	Leeds West PCT	88%	88%	85%	85%	85%	84%	84%	84%	89%	89%	89%	88%
5HJ	Leeds North East PCT	44%	44%	86%	86%	86%	100%	100%	100%	100%	100%	100%	100%
5HK	East Leeds PCT	61%	61%	80%	80%	80%	95%	95%	95%	100%	100%	100%	100%
5HL	South Leeds PCT	67%	67%	72%	72%	72%	73%	73%	73%	79%	79%	79%	85%
5HM	Leeds North West PCT	70%	70%	87%	87%	87%	87%	87%	87%	90%	90%	90%	91%
5J6	Calderdale PCT	78%	78%	80%	80%	80%	86%	86%	86%	83%	83%	83%	84%
5J7	North Kirklees PCT	78%	78%	69%	69%	69%	77%	77%	77%	80%	80%	80%	84%
5LJ	Huddersfield Central PCT	74%	74%	65%	65%	65%	66%	66%	66%	73%	73%	73%	75%
5LK	South Huddersfield PCT	69%	69%	71%	71%	71%	79%	79%	79%	72%	72%	72%	86%
Q12	West Yorkshire Total	70%	70%	77%	77%	77%	83%	83%	83%	85%	85%	85%	88%

Geographic inequity in waiting times – all referral routes (2 WW and other)

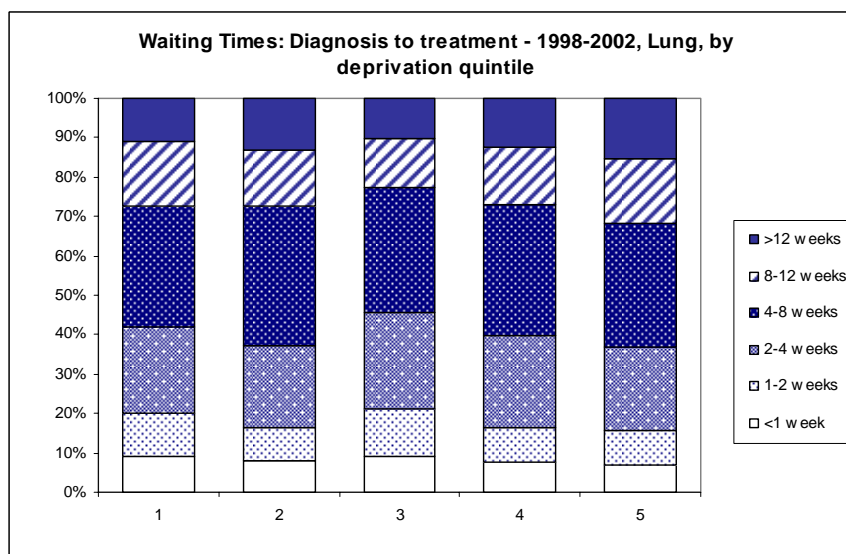
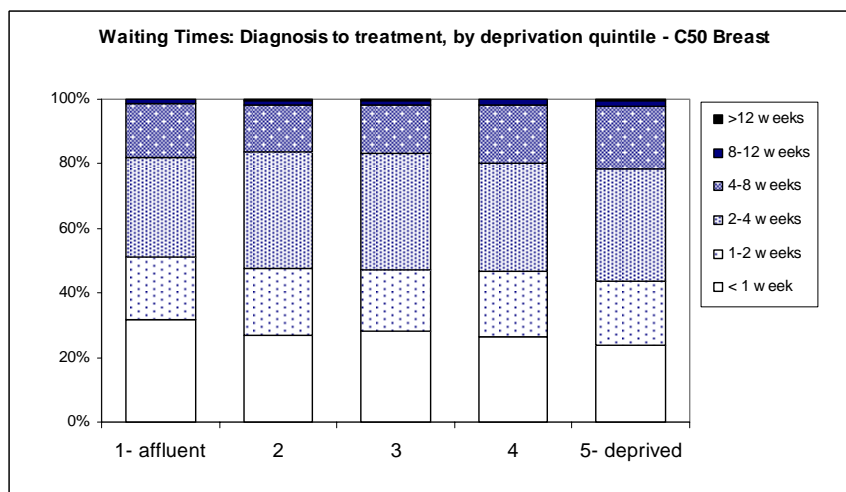
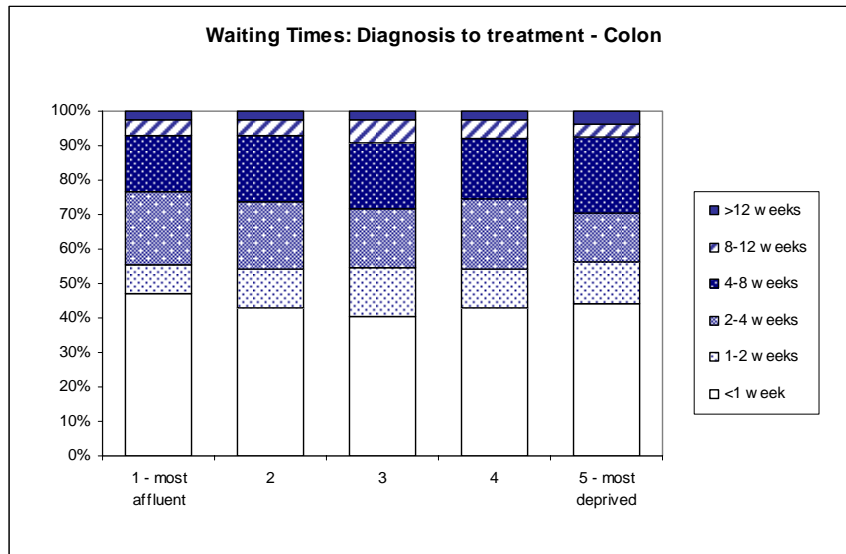
YHPHO Equity Profile clearly shows that there is geographic variation in Cancer Waiting times across the PCTs in West Yorkshire, for the 3 main cancers (Lung, Colon and Breast)¹².



¹² NB this data is W Yorkshire wide

Socio Economic inequity.

YPHO Equity Profile clearly shows that there is relatively little socio economic variation in waiting times for diagnosis to treatment commencing for the 3 major cancers:



Once urgent referral is made, NW Leeds patients are treated consistently quicker than W Yorkshire average.

For most months, NW Leeds exceeds it's profile target of ensuring patients receive treatment within 62 days following urgent referral. For most months NW Leeds exceeds its profile target of ensuring patients receive treatment within 31 days of diagnosis.

There is geographic variation for waiting times for the major cancers across W Yorkshire, this may be reflective of different treatment centres.

There is little socio economic variation within waiting times for the major cancers.

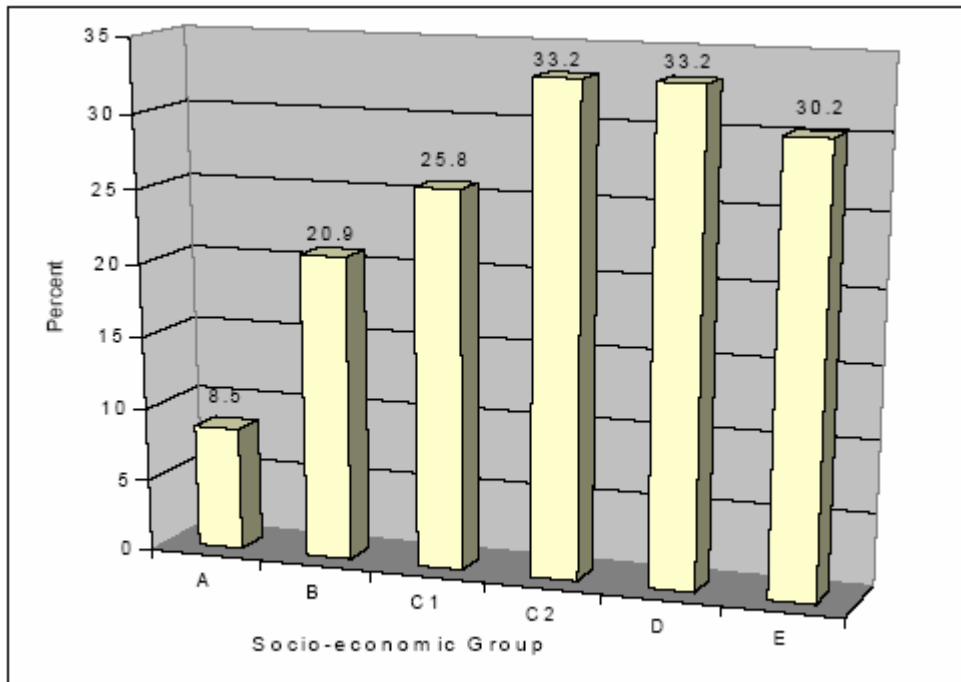
No data is available for ethnic variations in waiting times.

c Prevention

Exposure to lifestyle cancer risks

i Smoking

26% are smokers. There is a higher prevalence in the younger age groups (nearly 39% in 16-24 year olds), this is a significant issue for NW PCT with a large population of students. There are clear socio economic variations in prevalence



More recent data on smoking prevalence and quitting has published by Leeds Smoking Services:

Smoking Prevalence and Cessation				
Ward Name	2000 Index of Multiple Deprivation	Prevalence estimate¹³	% of people setting quit date¹⁴	% success¹⁵
Horsforth	6.89	15.75	Not available at ward level	Not available at ward level
Otley and Wharfedale	8.80	23	“ “	“ “
Aireborough	10.15	26	“ “	“ “
Cookridge	12.07	22	“ “	“ “
Weetwood	15.71	29	“ “	“ “
Headingley	16.17	35	“ “	“ “
Kirkstall	29.22	36	“ “	“ “
University	47.76	40	“ “	“ “
City and Holbeck	55.41	41	“ “	“ “
NW PCT	13.05	29.38	84.31	63.31
NE PCT	25.37	21.71	77.65	61.40
W PCT	26.23	32.7	67.93	67.13
S PCT	30.55	34.44	77.91	76.64
E PCT	36.04	33.49	84.32	59.86
LEEDS	25.78	30.66	76.99	66.02

The recently published synthetic estimates of healthy lifestyle behaviours give ward and PCT level data on smoking prevalence. This corroborates the link between social disadvantage and smoking prevalence.

People living in disadvantaged areas are more likely to be smokers.

¹³ Ward Level smoking prevalence estimates – based on synthetic estimates from ONS Data - <http://www.neighbourhood.statistics.gov.uk/dissemination/Download1.do>

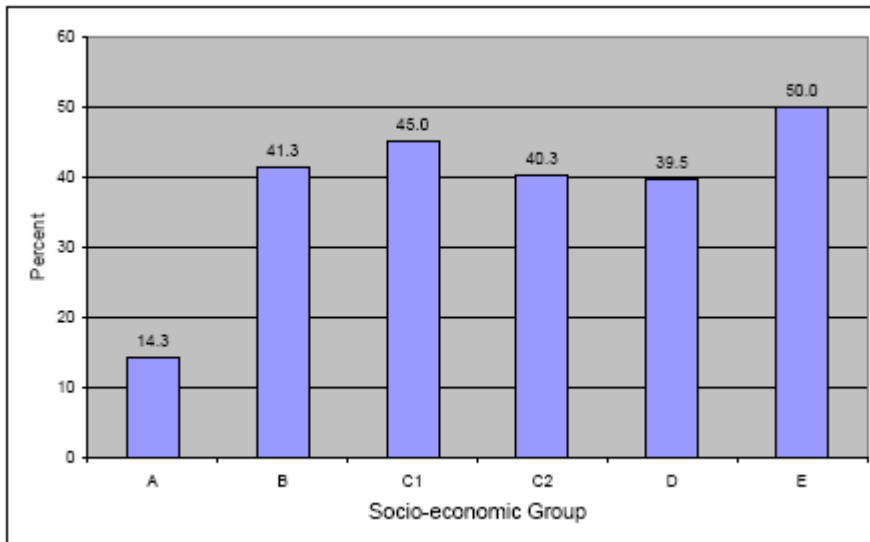
¹⁴ % of people setting quit date to stop smoking following attendance at smoking cessation. From analysis of LESS Data over 7 quarters

¹⁵ defined as quit at 4 weeks following smoking cessation intervention through LESS. From analysis of LESS Data over 7 quarters

Smoking Cessation

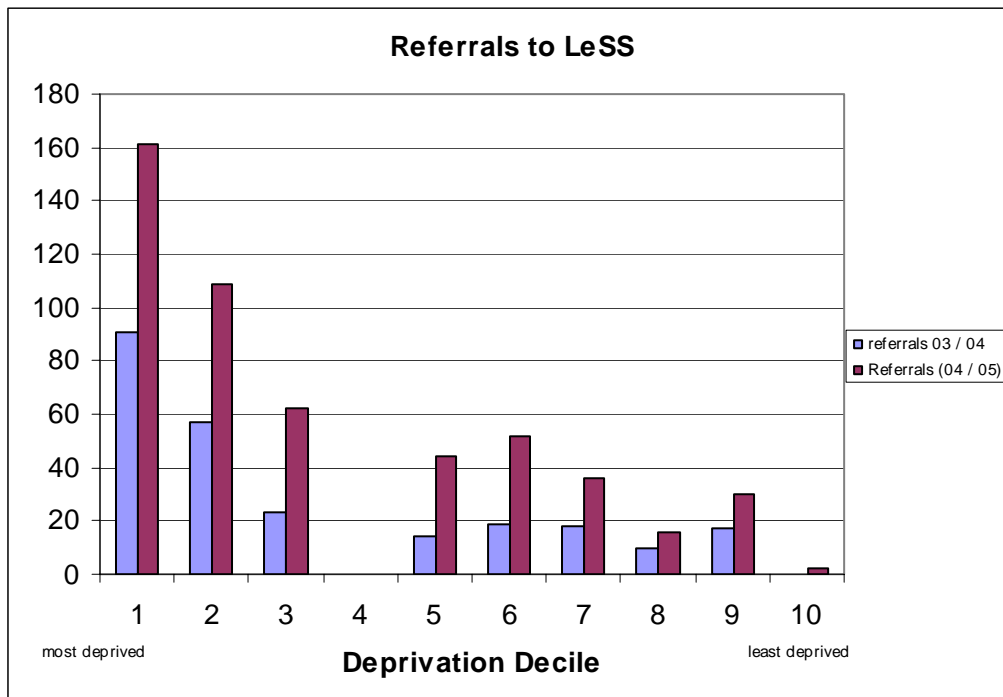
It is known that advice from a health professional can increase the number of people giving up smoking. The Lifestyle Survey asked smokers if they had been advised to give up by a nurse, doctor or other health professional.

14.3% of people in SEG A having been advised to give up smoking compared to 50% in SEG E.



This is corroborated by data recently published by Leeds Smoking Services:

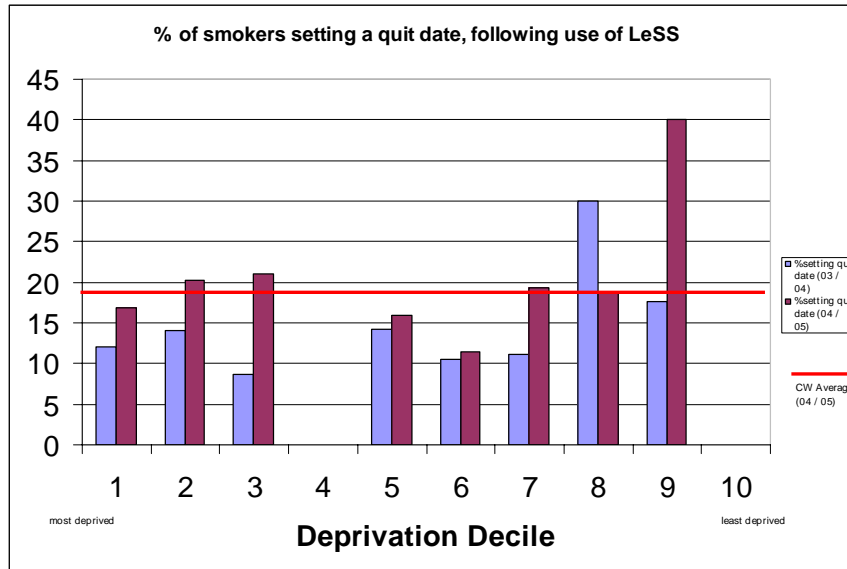
Access to Smoking Cessation



People from more disadvantaged backgrounds are more likely to have been referred for smoking cessation advice. This probably reflects higher smoking prevalence.

Success in smoking cessation

When rates of success are considered, it is seen that **people living in deprived circumstances are less likely to set a quit date** than their more advantaged peers.



At PCT level there is a slight (but not statistically significant) correlation between deprivation score and smoking cessation rates (4 weeks) – correlation is +0.111.

	2000 Index of Multiple Deprivation	Prevalence Estimate	% people setting quit date	%success
NW PCT	13.05	29.38	84.31	63.31
NE PCT	25.37	21.71	77.65	61.4
W PCT	26.23	32.7	67.93	67.13
S PCT	30.55	34.44	77.91	76.64
E PCT	36.04	33.49	84.32	59.86
LEEDS	25.78	30.66	76.99	66.02

Care taken not to put too much emphasis on this data, as a wide range of factors may play a part, including the effectiveness of local implementation, staffing levels – effectiveness of individual clinicians.

Anecdotal evidence from smoking cessation advisors corroborates the lower chance of success in a quit smoking attempt within more disadvantaged areas. It is suggested this is linked to lower levels of social support.

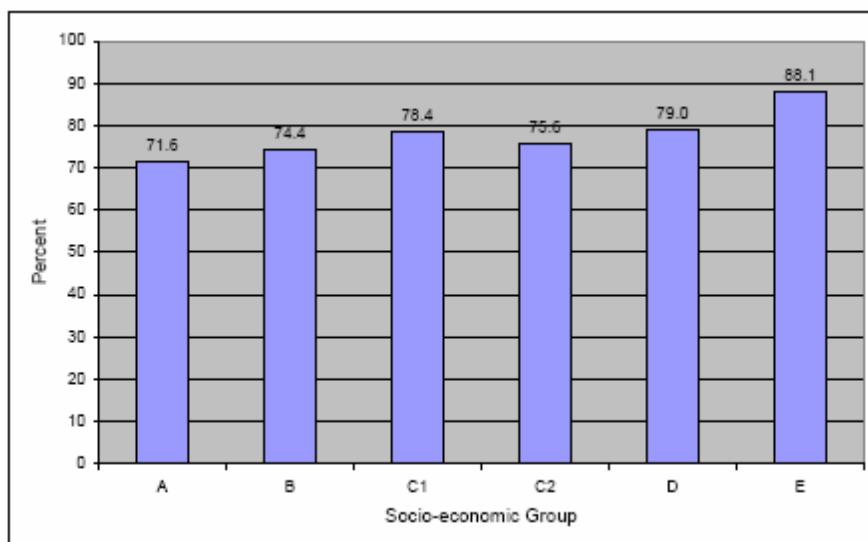
There are clear socio economic differences in smoking prevalence. Although more people living in deprived areas are referred for smoking cessation advice (probably reflecting higher prevalence), the likelihood of quitting is lower in this population than in affluent populations.

ii Diet

73% eat *less* than the recommended 5 portions of fruit and veg a day. Young people tend to eat less fruit and veg. 5 A Day is given as a proxy of a health diet, in addition to antioxidants / fibre in fruit and veg, there are other dietary components (eg high fat diet) that increase risk of Cancer.

There is a clear social gradient with 16.5% more people in SEG E eating less than 5 portions a day compared to SEG A.

Percentage Eating Less than 5 Portions of Fruit or Veg a Day and SEG



In addition, a higher proportion of people from non white ethnic backgrounds eat less than 5 portions of fruit and veg a day.

Ward based estimations of fruit and veg consumption

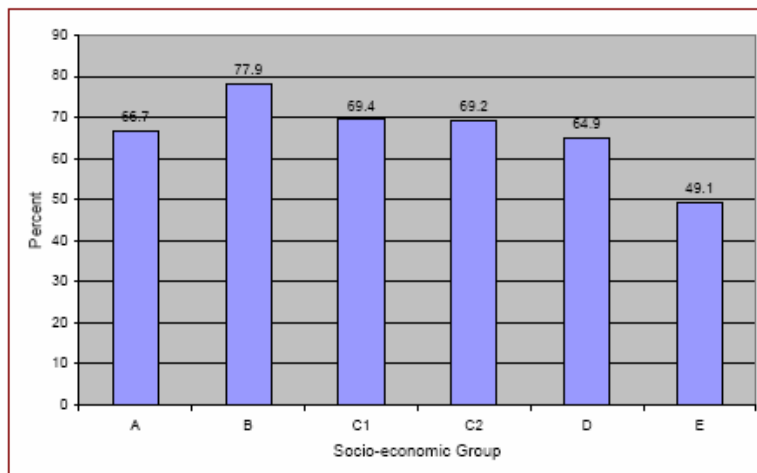
ONS have recently published synthetic estimates of fruit and vegetable consumption¹⁶. **For adults there is a clear correlation between deprivation and 5 A Day prevalence (correlation = -0.78)**. There is a much weaker correlation between deprivation and consumption among children (correlation = -0.34).

Ward Name	2000 Index of Multiple Deprivation	Prevalence of 5 A Day in adults ¹⁷	Prevalence of 3 a day in children
Horsforth	6.89	27.7	44.6
Otley and Wharfedale	8.80	24.8	41.4
Aireborough	10.15	22.7	38.7
Cookridge	12.07	27.5	42.2
Weetwood	15.71	22.1	51.4
Headingley	16.17	25.5	65.8
Kirkstall	29.22	21.5	41
University	47.76	14.3	51.6
City and Holbeck	55.41	20.4	24.3
NW PCT	13.05	22.9	30.0
LEEDS	25.78	19.8	34.8

¹⁶ synthetic estimates from ONS Data - <http://www.neighbourhood.statistics.gov.uk/dissemination/Download1.do>

¹⁷ confidence intervals are given in the ONS dataset. These confidence intervals are wide.

Attempts to improve diet



77.9% of people in SEG B have tried to change their diet compared to 49.1% in SEG E - a difference of 28.8%.

There are clear socio economic differences in fruit and vegetable consumption (a key risk factor, particularly for Bowel Cancer) for both adults and children.

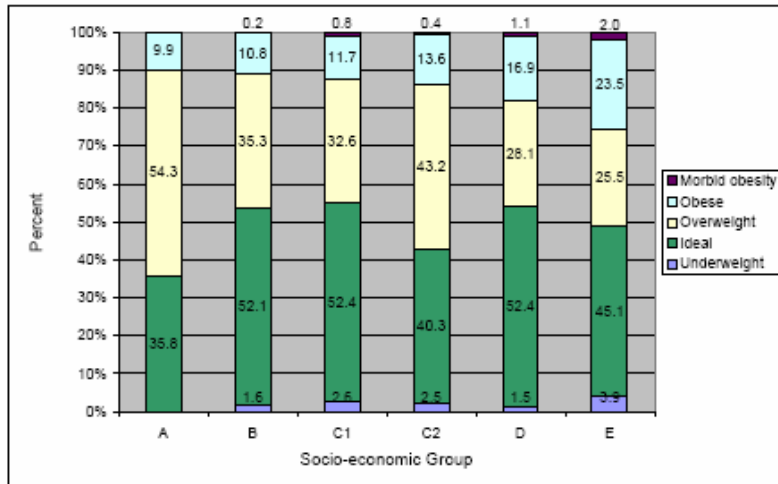
There are also clear socio economic variations in exposure to other dietary risk factors (fried food, fibre rich food), though the data is not presented here.

There are clear socio economic variables in attempts to improve diet. SEG E are less likely to have attempted to change their diet

iii Obesity

40% of the population are overweight, 11% obese and 0.2% morbidly obese – there are clear socio economic variations in obesity prevalence.

The proportion of people classified as obese increases progressively from SEG A to E. Between these two groups the proportion more than doubles from 9.9% in A to 23.5% in E.



Synthetic estimate of prevalence of Obesity ¹⁸		
Ward Name	2000 Index of Multiple Deprivation	Obesity Prevalence
Horsforth	6.89	18
Otley and Wharfedale	8.80	19.6
Aireborough	10.15	19.6
Cookridge	12.07	18.3
Weetwood	15.71	16.6
Headingley	16.17	15
Kirkstall	29.22	18.4
University	47.76	19.1
City and Holbeck	55.41	23.6
NW PCT	13.05	18.0
LEEDS	25.78	20.8

Obesity and ethnicity

	White	BME Groups
Underweight	1.8	4.0
Ideal weight	50	40.4
Overweight	34.6	35.4
Obese	12.9	20.2
Morbidly obese	0.7	0

The correlation between deprivation and obesity prevalence in adults is clear, Lifestlye Survey data indicates a socio economic variation; recent ONS data suggests that obesity seems to be spread relatively evenly across all wards.

There are clear ethnic variations in obesity and overweight. For simplicity ethnicity is viewed here as white and BME Group, it is recognised this is over simplistic.¹⁹

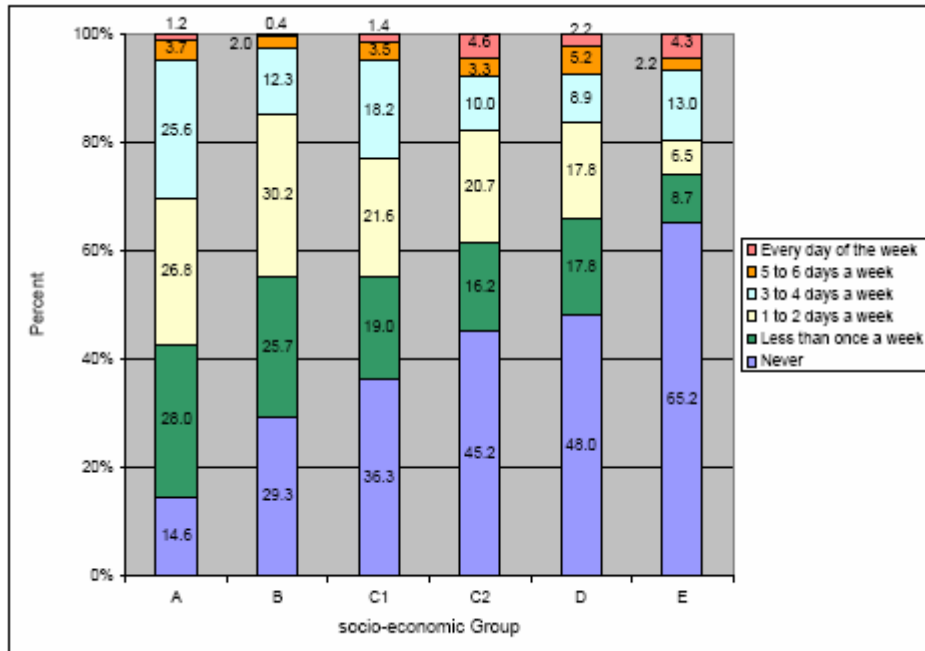
¹⁸ Ward Level obesity prevalence estimates – based on synthetic estimates from ONS

¹⁹ Data taken from the Leeds Lifestlye Survey

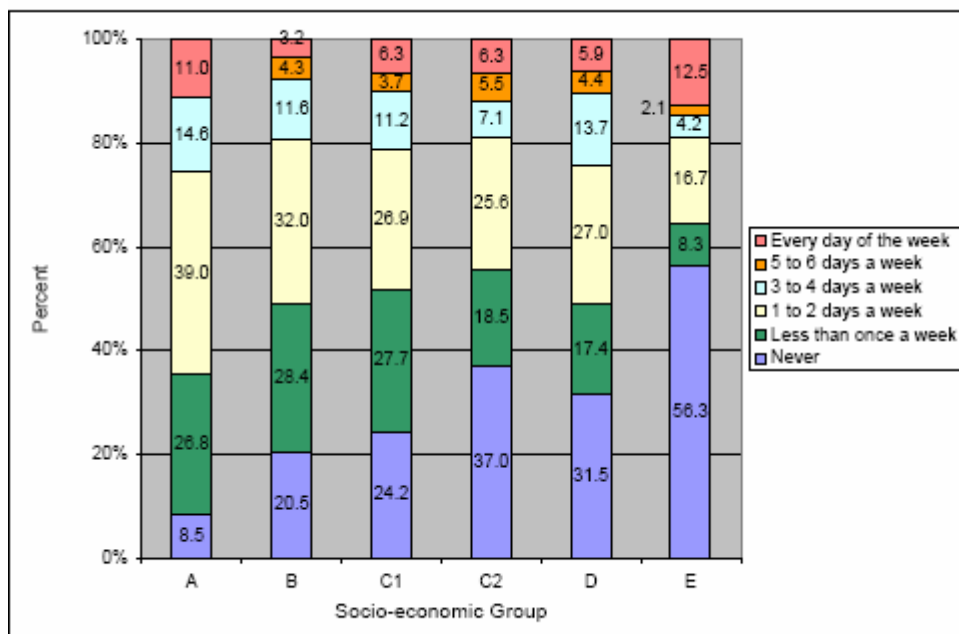
iv Exercise –

Overall - 16% of people take the recommended amount of exercise (moderate or heavy exercise for at least 30 minutes 5 or more days a week) – there are clear socio economic variations.

Heavy Exercise / active sport or leisure



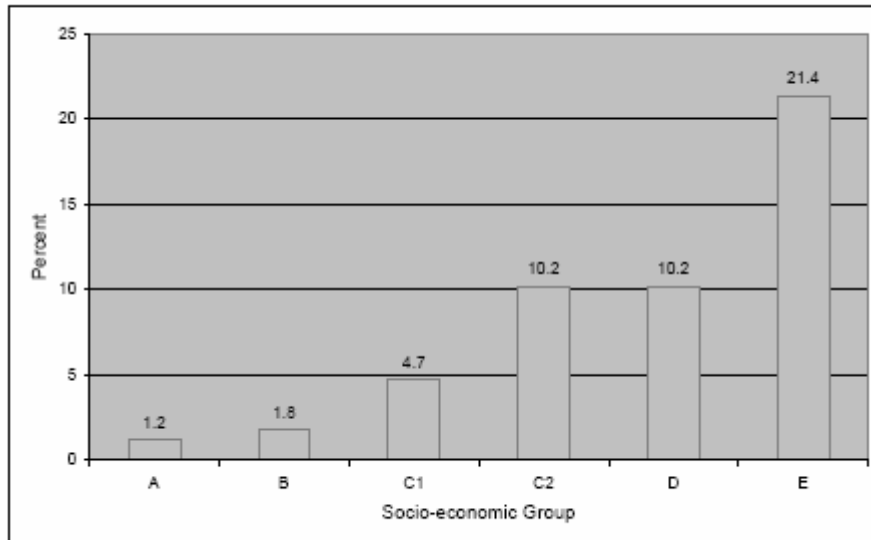
Moderate activity (including occupational activity)



- 8.5% of people in SEG A do no moderate exercise at all compared to 56.3% in SEG E.
- 14.6% of people in SEG A never do heavy exercise compared with 65.2% in SEG E.

Proportion taking no exercise at all

The prevalence of complete inactivity increases between SEG A to E. It should be remembered that over 60% of people in SEG E reported a long-term illness or disability that limited their daily activity or work



People living in more deprived areas are less likely to meet the CMO recommendations on physical activity, although occupational activity play a role in levelling participation across social groups.

There are clear socio economic variations in the prevalence of complete inactivity

There are no ethnic variations with regard to participation in sport and leisure activity.

Summary of exposure to lifestyle related cancer risks.

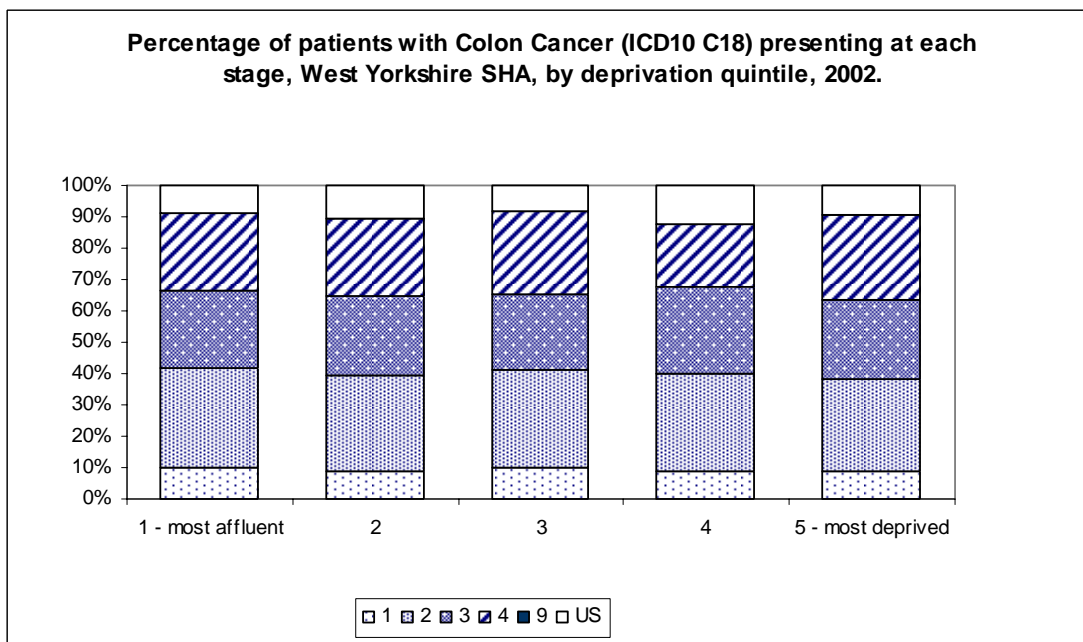
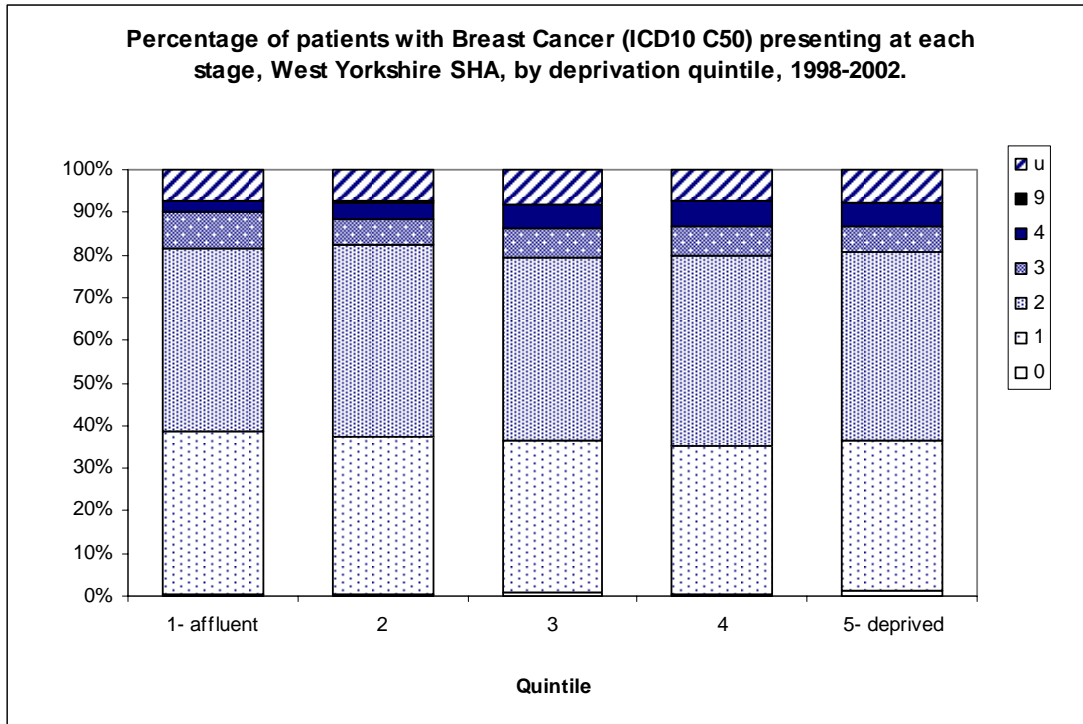
There are marked socio economic, ethnic, age and sex differences in exposure to some lifestyle risk factors.

People living in disadvantaged areas are more likely to smoke, eat less than 5 portions of fruit / veg, not exercise.

D STAGE OF PRESENTATION

Socio economic

There are relatively few socio economic variations in stage at presentation for either Breast Cancer or Colon Cancer (data is unavailable for Lung Cancer)²⁰.

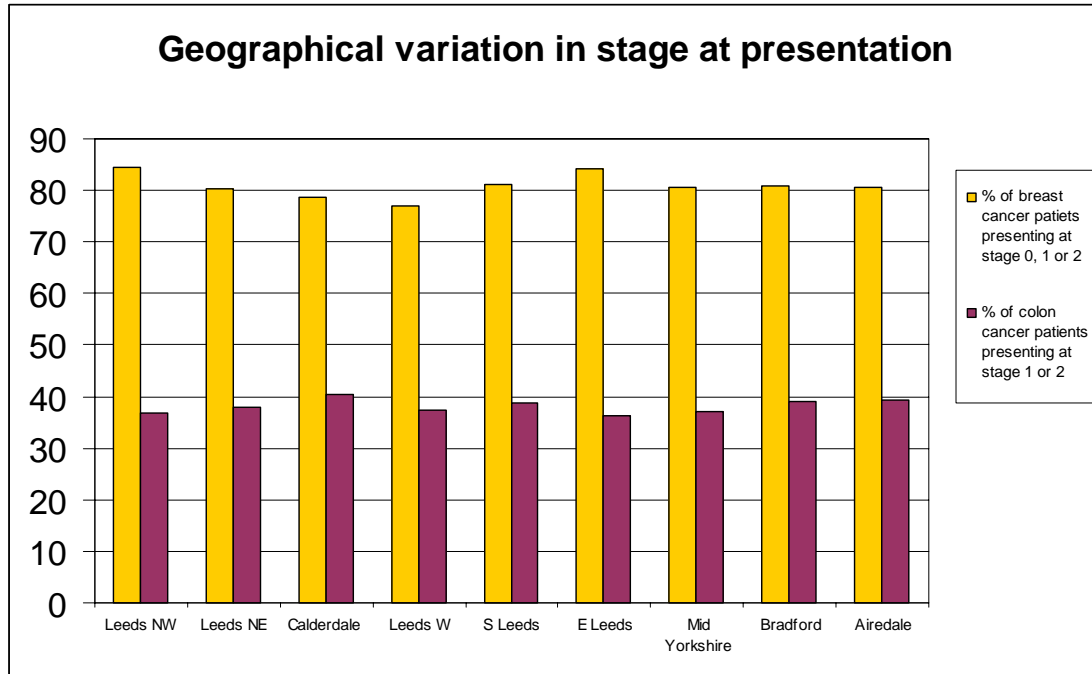


From available data in W Yorkshire, there are relatively few socio economic variations in stage at presentation. This is counter to other published research which suggests there are variations.

²⁰ YPHO Equity Profile. NB data for whole of W Yorkshire

Geographical variation in stage at presentation

There is limited geographical variation in stage at presentation across the trusts in W Yorkshire²¹. For Colon Cancer and Breast Cancer, there is an approximate 4 and 7 percentage point variation between highest and lowest across W Yorkshire. Stage data for Lung Cancer is not available.



²¹ data from YPHO Audit

5 Testing the original hypothesis

This audit has found that there are significant variations in the rate of 2 week (urgent) referrals across the YCN area, with NW Leeds having a lower rate than any other PCT in W Yorkshire.

It had been suggested that as a result of this NW Patients were waiting longer to get into treatment, with potentially more advanced cancer at diagnosis, and worse outcome.

The table below shows all data relating to incidence, 2 week wait rate, mortality and stage at presentation. Data is drawn from the original YCN Cancer Waiting Times Audit, NCHOD and YHPHO Cancer Equity Profile. As the YCN Cancer Waiting Times audit and YHPHO Equity Audit covered different geographical areas, the data is used selectively, and some assumptions are made.

is there a relationship between 2WW Referral Rate, Cancer incidence and cancer mortality							
Area	Age Standardised incidence of lung cancer	Rate of 2 Week Wait Referral Per 100,000 <u>Not age standardised</u>	% of breast cancer patients presenting at stage 0, 1 or 2	% of colon cancer patients presenting at stage 1 or 2	ASM <65 - all cancers 2001 - 2003 pooled NCHOD data	ASM (all ages) - all cancers	notes
Leeds NW	51.6	117	84.5	36.7	79.34	192.55	
Leeds NE	42.3	142	80.2	38	66.68	172.53	
Calderdale	52.3	157	78.65	40.3	73.85	190	mean for Huddersfield S, Calderdale, Huddersfield Central and N Kirkless PCT
Leeds W	72.5	176	76.9	37.5	80.87	214.27	
S Leeds	80.3	178	81.1	38.9	85.35	208.11	
E Leeds	74.4	184	84.2	36.4	81.36	214.07	
Mid Yorkshire	63	201	80.5	37.2	78.61	207.5	mean for W and W Wakefield
Bradford	61.5	247	80.97	39	77.38	194	mean for Bradford PCTs (except Airedale)
Airedale	53.5	351	80.45	39.4	70.18	186.59	

The data above was tested for correlation²²:

correlation between lung Cancer incidence and 2 Week Wait	0.033
correlation between 2 week wait and breast cancer patients presenting at stage 0, 1 or 2	-0.144
correlation between 2 week wait and colon cancer patient presenting at stage 1, 2	0.399
correlation between 2 week wait and ASM <65	-0.251
correlation between 2 week wait and ASM - All ages	-0.065

²² A negative number for correlation - as one variable increases, the other one falls. A positive number for correlation - as one variable increases, the other one also increases. The closer to 1 (either positive or negative) the stronger the correlation

There is no significant statistical correlation between any of the variables, they do not appear to be related.

For the original hypothesis, there is no statistical evidence that a low rate of referrals under 2 week wait, has any bearing on stage at presentation (for Breast and Colon Cancer) or mortality (<65 or all age)

Correlation between mortality and exposure to behavioural risks

is there a relationship between behavioural risk and cancer mortality							
	Smoking Prevalence Estimate	Age Standardised incidence of lung cancer	ASM Lung Cancer <75 years (DSR). 2001 - 03 pooled	Prevalence of 5 a day. Adults	Colorectal Cancer. All ages . Indirectly SMR. 2001 - 03 pooled	ASM <65 - all cancers 2001 - 2003 pooled NCHOD data	ASM (all ages) - all cancers
Leeds NW	29.38	51.6	34.6	22.9	81	79.34	192.55
Leeds NE	21.71	42.3	25	28.3	99	66.68	172.53
Leeds W	32.7	72.5	43.35	16.9	104	80.87	214.27
S Leeds	34.44	80.3	44.2	15	93	85.35	208.11
E Leeds	33.49	74.4	40.1	16.1	117	81.36	214.07

Correlation between smoking prevalence and incidence of lung cancer 0.93
 correlation between smoking prevalence and ASM Lung Cancer <75 0.97
 correlation between SMR colorectal Cancer and 5 a day prevalence -0.36

There is a strong correlation between smoking prevalence and both incidence / mortality for Lung Cancer, this is expected.

There is a weak negative correlation between 5 a Day prevalence and mortality from Colorectal Cancer. This is counterintuitive; however the fact that only SMR data is available (as opposed to a rate – eg DSR) may be a significant factor. Incidence of colorectal cancer is not available at PCT level; this would be a better indicator.

6 Interpretation

The original hypothesis for this equity profile was that access to health care, particularly from the point of referral in primary care, for patients in NW Leeds is slower than for other PCTs in Leeds. Following this, slower.

Conclusions that can be drawn from the data in this report are presented below:

Incidence

There are significant geographic variations for the incidence of the 3 main cancers across W Yorkshire. Although the data is not presented in this report, there are also socio economic differences in incidence rates. Incidence is known to be primarily associated with age, sex (for sex specific cancers) and exposure to known risk factors.

Mortality

PCT Level

There are slight geographic variations in Cancer Mortality at PCT level (both under 65 and all ages). These are broadly correlated to the DETR Index of Multiple Deprivation.

For under 65s, Cancer rates fell (1995 – 2002) by 2.03% in NW Leeds, **much slower than the city average of 7.28% and GOYH Average of 12%.**

All age mortality from Cancer is falling at the same rate in Leeds NW as the Leeds average.

Ward Level

There are large variations in ward level mortality, correlated with multiple deprivation, both for all ages and under 65.

Although overall under 65 Cancer mortality is falling for the PCT as a whole, there are 4 wards where mortality is still increasing.

Treatment

Primary Care

There is data to suggest that 21% all cancer referrals are received by LTHT using the 2 Week Wait Urgent Referral to refer patients with symptoms suggestive of cancer.

This is variable across different cancer sites. The implication of this is that patients referred in as non urgent patients may wait longer to receive diagnosis and treatment.

NICE have set out that optimal care is for all patients with suspected cancer to be referred using the 2 week wait, urgent referral form. This is not happening in NW Leeds. It is not possible to get sub PCT data. An assumption is made that there are **not** individual GPs or practices that are not using the correct form to refer. The rate of 2 week wait referrals in NW Leeds is lower than for Leeds as a whole, which is also lower than the YCN Average. The data on 2 Week Wait Referrals presented here is not age standardised, this will make a difference to the NW Leeds rate.

The low rate of referrals under 2 week wait is probably reflective of a wide spectrum of non specific, vague symptoms presenting to GPs. This is combined with poor access to diagnostics within General Practice.

For patients that are referred using the 2 Week Wait forms, the performance of the system is high. Compliance with the 2 Week Wait target is consistently above 90% in Leeds (97% in NW Leeds)

When ALL Cancer Referrals are considered, there are clear geographic variations in waiting time for referral to diagnosis for the 3 main cancers (Breast, Colon, Lung) across PCTs in W Yorkshire. Sub PCT data is not available, without a more complex epidemiological study. It is difficult to get meaningful referral data below PCT level, therefore we have limited information as to whether individual practices are breaching 2 Week Wait referral guidelines.

However, for ALL referrals there is no evidence of socio economic variations in waiting time (referral to diagnosis) for the 3 major cancers.

The reason for the low 2WW referral rate in Leeds and geographical variation across W Yorks is unknown.

There is a 2.3 fold difference in the rate of 2WW referrals between highest and lowest areas within YCN, and little correlation between a high referral rate and high cancer incidence rate. Thus high referral rate cannot be easily explained by a high incidence rate.

However, there are a number of plausible explanations:

1. Anecdotal evidence received suggests that Leeds GPs are not correctly using the fast track referral forms (on Leeds Health Pathways site) correctly –
 - they are writing letters to LTHT asking for a patient to be seen urgently, rather than filling in the form.
 - or are not ticking all the boxes (asking the referrer for symptoms etc).
 - Use of the forms, and correct use of the forms (is all boxes ticked) will increase the specificity and speed with which the patient will get into the system.

2. YCN have advised that a potential reason for the geographic variation in 2 Week Wait Referral Rates is that different treatment centres across the UK have variation in what they class as a 2 Week Wait.
 - Within Leeds, LTHT have established a single access fax number for all urgent cancer referrals, and have made clear that only the Leeds Health Pathways urgent referral form (based on NICE guidance) will be counted as an urgent referral.
 - Other treatment centres will class a letter that asks for a patient to be seen urgently as an urgent referral. This will account for a substantial proportion of the geographic variation.

3. Again, anecdotally GPs consistently identify that access to diagnostics is where the problem lies. Without rapid access to diagnostics in the community, clinicians may be easily misled by other symptoms.

4. Although the system is standardised to NICE guidelines, it is feasible that there are variations in the likelihood of referral between areas – this may be based on the GPs awareness of symptoms, and the threshold that would trigger a referral.
 - it is plausible that the ‘threshold’ for making a referral is Airedale is significantly lower than the threshold for referral in York.
 - As the threshold is lowered, more people are referred (with a consequent increase in false positive referrals, and the anxiety this causes). In Leeds 15% of referrals turn out to be Cancer.
 - In addition, as the threshold that triggers a GP to refer is lowered, there is an increased chance of diagnostics being overloaded with large numbers of people who have low likelihood of having cancer.
 - As more people are referred, with static capacity in Yorkshire Cancer Centre, compliance with 2 week wait guidance will be reduced

There is more limited evidence to support the hypothesis that inequity in access to care (as defined by longer waiting) accounts for inequity in outcome (as defined by mortality rates).

Secondary Care – Diagnosis to Treatment.

Primary and secondary care combined – Referral to Treatment

For those patients referred in through 2 Week Wait, the cancer system exceeds its performance targets (31 days from diagnosis to treatment / 62 days from referral to treatment) within NW Leeds for most months in a 10 month period.

When **all** referrals are considered, there are geographic variations in waiting times for diagnosis to treatment for the 3 main cancers (Breast, Colon, Lung) across PCTs in W Yorkshire. Sub PCT data is not available, without a more complex epidemiological study.

However, for ALL referrals there is no evidence of socio economic variations in waiting time (diagnosis to treatment) for the 3 major cancers.

Stage at Presentation

There are few socio economic variations with regard to stage at presentation for any of the 3 main cancers (lung, breast, colon).

There are minor geographic variations.

Prevention

Behavioural risks

There are clear socio economic variations in the prevalence of key behavioural risk factors within NW Leeds:

- Smoking
- Consumption of 5 A Day

The socio economic distribution of exercise and obesity is less clear. There are ethnic differences in obesity and exercise however.

There are clear socio economic variations in likelihood of a successful quit attempt and previous attempts to improve diet.

There is no statistical correlation between the rate of urgent referrals (per 100,000 population) or:

- **Incidence (breast, bowel or lung) – rate of referrals is not a function of cancer incidence**
- **Stage at presentation (breast or bowel) – no evidence to suggest that a low rate of urgent referral has an impact on stage at presentation.**
- **Mortality (either <65 or all ages) – no evidence to suggest that a low rate of urgent referrals has an impact on mortality.**

There is statistical correlation between Smoking prevalence and Lung Cancer, incidence and mortality. The correlation between 5 a Day prevalence and colorectal cancer mortality is less clear. Correlation between mortality and other behavioural risks is not considered here.

7 Conclusion.

From the original hypothesis, there is no statistical evidence that a low rate of referrals under 2 week wait, has any bearing on stage at presentation (for Breast and Colon Cancer) or mortality (<65 or all age)

There is a strong correlation between smoking prevalence and both incidence / mortality for Lung Cancer, this is expected.

There is a weak negative correlation between 5 a Day prevalence and mortality from Colorectal Cancer.

There is relatively little data to suggest that socio economic variations in mortality (as measured using the DETR Index of Multiple Deprivation) are linked to variations in the cancer treatment system.

A more plausible explanation is that inequity in outcome could be explained by differentials in exposure to risk (primarily behavioural risk factors – smoking prevalence and 5 a day), age factors, unknown biological factors (genetic predisposition), co morbidity (especially smoking), late presentation. It has also been suggested that and delay in presentation among more deprived population groups was also a significant factor, but there is limited data to support this locally.

The above explanation is consistent with the NAO reports into Cancer Care²³ which found that although mortality rates are falling and survival improving overall, geographical variation is largely related to differentials in exposure to behavioural risks.

This audit considered all Cancers, though there may be some value in consideration of specific cancers where there are known problems. For example the NAO reports highlighted that there were some significant problems with regard to the patient experience for patients with Prostate Cancer.

Anecdotal evidence put forward suggests that inequity in access to care is minimised due to the 'system' being relatively standardised according to NICE Guidelines.

²³ National Audit Office. Tackling Cancer in England: saving more lives, 2004

8 Recommendations – improving equity

A number of recommendations are made here for improving equity in prevention, treatment and outcome for Cancer:

a Data and information

- 1 For any future audit conducted on waiting times, data should be presented as Directly Age Standardised rate, with sub PCT information available.**
- 2 Two Week Wait referral rate should be rechecked periodically to give a measure of whether there is an increase in number of GPs using the forms correctly.**
- 3. From April 05, all 2 Week Wait referrals go to one fax number at YCN (from where they will be sent to the appropriate clinical team. The efficiency and impact of this (on rate of 2WW referrals) needs to be checked**

b Referrals and primary Care

- 1. Write to NW Leeds GPs instructing them in the use of the Leeds Health Pathways forms (based on NICE guidance) - make them aware of the requirement for faxing info within 24hrs of decision to refer as an urgent case.**
- 2. Improve the appropriateness of the use of Leeds Health Pathways urgent referral forms – through ticking all the boxes. Information and education sessions as part of TARGET when revised NICE guidelines are published.**
- 3. Ensuring there is quality and standardised GP feedback from providers, based on the appropriateness of referrals (there needs to be a clear definition of the word appropriate – some discrepancies between primary and secondary care – a common view should be developed based on risk.**

c Health Care professional education

- 1 NW PCT will actively roll out national and regional initiatives (training and CME for GPs), and target where appropriate, work to improve the rate of early referrals (see appendix 3)**

d Prevention

- 1. Increase prevention activity to address key behavioural risks (smoking, diet, physical activity, obesity management and alcohol consumption).**
- 2. development and implementation of strategies for Smoking, Diet and other behavioural risk factors.**
Specific targeting towards low income areas / other communities at risk – reducing the socio economic and other variations in behavioural risk and screening uptake

e Symptom recognition

It is known that generally, Cancers are diagnosed at a more advanced stage in the UK compared with other EU countries – this is thought to contribute to poorer survival.

Evidence of this has not been sought for this audit. However, the NAO recommendations on Primary Care and Cancer were clear in their recommendations:

- 1. Exploring alternative service models for symptom education, articulation of symptoms – eg through pharmacy, and non health care outlets.**
- 2. Symptom education (and health education) should be culturally appropriate and sensitive to low levels of health (and general) literacy.**
- 3. Community development approach to symptom education – events and fairs.**

**Greg Fell
NW Leeds PCT
September 05**

Appendix 1 – commentary on the mortality data

ONS Annual Mortality extracts, the number of deaths registered for all cancers (malignant neoplasms) per calendar year.

Population taken from the 2001 Census Standard Table S01 at ward level and aggregated up to PCT and Leeds totals to produce age-specific rates at Ward, PCT and LA level.

European Standard Population is used to compute the Directly Age-Standardised Rates

Mortality Rates for All Cancers (Malignant Neoplasms ICD9 140 to 208 and ICD10 C00 to C97) are per 100,000 and have been calculated for individual years and 3 year rolling averages.

Comments on numerator data:

Deaths data is collected for calendar years and was based on the ninth version of the International Classification of Diseases (ICD9) until 2000. From 2001 the tenth version of the International Classification of Diseases (ICD10) has been used. For the purposes of the Public Health Annual Report 2003 the data has been extracted and compiled on a calendar year basis. All extracts have been based on Underlying Cause of Death.

Comments on Direct Standardisation:

Directly standardised rates give 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 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.

Pros:

Unlike Indirectly Standardised rates, which compare the observed number of events to the expected number of events, Directly Standardised rates can be used to compare disease rates across areas and time.

They can be used to assess the relative burden of disease in a population, e.g. if there is more heart disease than cancer.

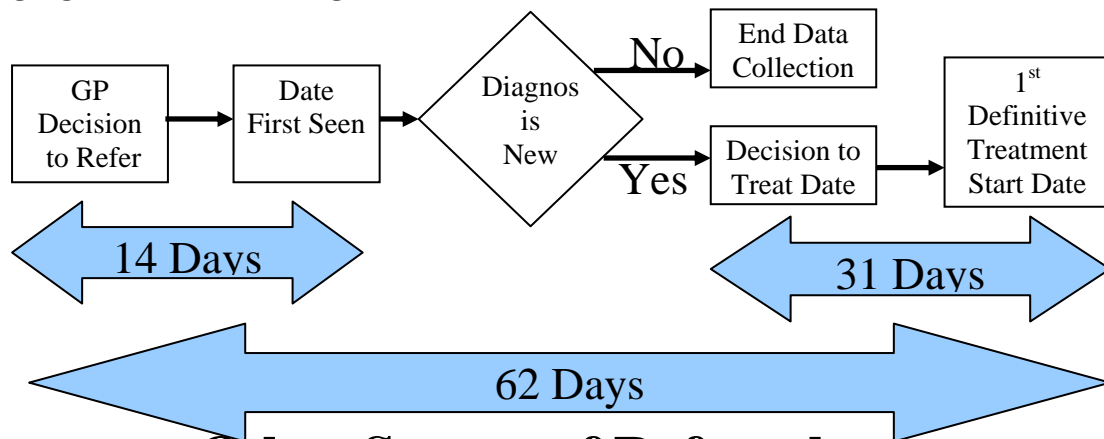
There are a wide variety of comparable figures available, including the Compendium, that have been standardised using the European Standard population.

Cons:

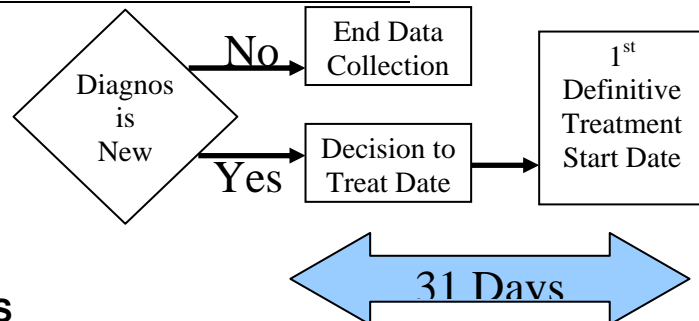
Rates may not be stable for a small number of events (approximately <100).

Appendix 2 Overview of the treatment system

URGENT REFERRALS



Other Source of Referral



NON URGENT REFERRALS 'normal route'

Implication:

Those referred in through 2WW system have first consultant appointment in 14 days (target being met in approx in 80 – 100% of cases)

Those that come into the system through the 'normal route' wait up to 13 weeks for consultant appointment. – wait longer for treatment – more advanced diagnosis – harder to treat – poorer prognosis. However – if all are referred into system through 2WW – a lot of false positives.

Target:

Maintain a two-week maximum wait from urgent GP referral to first outpatient appointment for all urgent suspected cancer referrals.

Rationale:

The NHS Cancer Plan sets the ultimate goal that by 2008 no patient should wait longer than one month from an urgent referral for suspected cancer to the beginning of treatment except for good clinical reasons. A series of staged milestones and targets have been set out between 2000 and 2005 including "a maximum two week wait from an urgent GP referral for suspected cancer to date first seen for suspected cancers by end of 2000".

Numerator:

The number of patients seen for a first outpatient appointment within two weeks when urgently referred by their GP with suspected cancer, and the referral being received by an NHS trust within 24 hours.

Denominator:

The total number of patients seen for a first outpatient appointment when urgently referred by their GP with suspected cancer, and the referral being received by an NHS trust within 24 hours.

Construction:

The number of patients seen for a first outpatient appointment within two weeks when urgently referred by their GP with suspected cancer, and the referral being received by an NHS trust within 24 hours divided by the total number of patients seen for a first outpatient appointment when urgently referred by their GP with suspected cancer, and the referral being received by an NHS trust within 24 hours.

Expressed as a percentage.

Performance will be calculated based on the PCT of residence of the patient.

All cancers: one month diagnosis (decision to treat) to treatment**Target:**

Ensure a maximum waiting time of one month from diagnosis to treatment for all cancers by December 2005

Rationale:

The NHS Cancer Plan sets the ultimate goal that no patient should wait longer than one month (31 days) from diagnosis of cancer to the beginning of treatment except for good clinical reasons.

Numerator:

The number of patients receiving their first definitive treatment within one month (31 days) of a new decision to treat (as a proxy for diagnosis) for cancer.

Denominator:

The total number of patients receiving their first definitive treatment for cancer.

Construction:

The number of patients receiving their first definitive treatment within one month (31 days) of a new decision to treat (as a proxy for diagnosis) for cancer divided by the total number of patients receiving their first definitive treatment for cancer.

Expressed as a percentage.

Performance will be calculated based on the PCT of residence of the patient.

All cancers: two month GP urgent referral to treatment

Target:

Achieve a maximum waiting time of two months from urgent referral to treatment for all cancers by December 2005

Rationale:

The NHS Cancer Plan sets the ultimate goal that no patient should wait longer than two months (62 days) from a GP urgent referral for suspected cancer to the beginning of treatment except for good clinical reasons.

Numerator:

Number of patients receiving their first definitive treatment for cancer within two months (62 days) of GP urgent referral for suspected cancer.

Denominator:

Total number of patients receiving their first definitive treatment for cancer who were GP urgent referrals for suspected cancer.

Construction:

Number of patients receiving their first definitive treatment for cancer within two months (62 days) of GP urgent referral for suspected cancer divided by the total number of patients receiving their first definitive treatment for cancer who were GP urgent referrals for suspected cancer.

Performance will be calculated based on the PCT of residence of the patient.

For patients who breach the 62 day maximum waiting time guarantee, and who are transferred between NHS trusts as part of their care pathway, the breach will be allocated equally between the NHS trusts involved.

Services should be aware that if data are not of sufficient quality they may be penalised.

A number of **national pieces** of work are currently underway to improve the efficiency of the system for ensuring early referral:

- Risk scores for Ca diagnosis – increase robustness of symptom profiles and specificity of referral by GP – ie cuts down false positives.
- Though there is discussion currently around the low predictive power of the current NICE referral guidance for urgent referrals – this results in significant numbers of patients being urgently referred without Ca.
- NICE are currently revising the urgent referral guidance, with a specific objective of increasing the predictive power of the guidelines for GPs making urgent referrals.
- Revised NICE guidance, linked to robust and systematic GP education and encouragement to ‘use the system’ consistently and systematically.
 - This will improve GP assessment and referral. The NICE work will include appropriate decision support tools for GPs with higher positive predictive value
 - Improving access to diagnostics for GPs