

HEALTH EQUITY PROFILE— Access to secondary care services for colorectal cancer in West Yorkshire

Introduction

This report is one of a series of equity profiles focussing on West Yorkshire, and aims to explore issues around equity of provision of secondary care colorectal cancer services in the West Yorkshire area. The report aims to measure how recent service provision has reflected patterns of need in relation to 4 key dimensions; age, gender, socio-economic status and geography. The report is intended primarily to inform cancer equity audit work being undertaken at the West Yorkshire level. However it is hoped that the framework used and also the findings, can be used as part of Health Equity Audit (HEA) being undertaken across Primary Care Trusts (PCTs) and Local Strategic Partnerships (LSPs) in the West Yorkshire area.

Table 1 summarises the scope of this Health Equity Profile. Again it is worth noting that the profile is not intended to be comprehensive. Indicators used have been selected according to availability across the area covered, and represent only a part of the range of measures that could form part of a cancer equity profile.

Format

The profile considers each dimension of equity in turn, looking first at measures of need, then each measure of provision used. Equity issues are explored for each dimension. An overall summary is also provided at the end of the profile.

YHPHO are aiming to provide ‘datapacks’ to support health equity profiling at different geographical levels.

YHPHO are also developing a series of templates for HEP, focussing on a range of other key policy areas such as diabetes and accidents. For more information on our work programme around HEA please visit our website at www.yhpho.org.uk

Table 1: Equity Profile Framework

THEME:

- Colorectal Cancer – access to secondary care services

GEOGRAPHICAL AREA:

- West Yorkshire Strategic Health Authority

TIME PERIOD:

- Need data (incidence & mortality) – 1998-2002
- Secondary care provision data – 2002

DIMENSIONS OF EQUITY COVERED:

- Age and gender (pages 4-10)

- Geography (PCT) (pages 11-15)

- Socio-economic status (pages 16-19)

MEASURES USED:

Measures of Need	Measures of service provision
<ul style="list-style-type: none"> • Incidence rates • Mortality rates 	<ul style="list-style-type: none"> • Waiting time – referral to diagnosis • Waiting times – diagnosis to treatment • Treatment types • Stage at presentation

Please see Appendix for more detailed information on data sources and methods used.

Background and Context

Health Equity Audit

Health Equity Audit (HEA) has been identified as a key tool for embedding evidence on health inequalities into mainstream NHS activity such as planning, commissioning and service delivery¹. It is now a mandatory responsibility of Primary Care Trusts and is included as part of the National Planning Guidance for 2005-8² as well as the 2004 Healthcare Commission performance ratings for PCTs³.

Health equity audit aims to identify how fairly services or other resources are distributed in relation to the health needs of different groups and areas, and the priority actions required to provide services relative to need. The overall aim of HEA is to distribute resources relative to need. It is a cyclical process, as illustrated in points 1 to 6 in **Figure 1**.

A recent national survey of PCTs in England was designed to assess their experience with the requirement to undertake HEA⁴. The report identified equity profiling as one of the elements of HEA where most support is needed. The key types of support identified included provision of comparator data and expertise on methodologies and techniques.

In response to this Yorkshire and Humber Public Health Observatory are developing a programme of HEA work aimed particularly at supporting the equity profiling elements of the audit process. The programme has three main parts:

- ❖ Development of a framework for equity profiling
- ❖ Regional/SHA level equity profiling
- ❖ Provision of comparator data to support PCT work on HEA

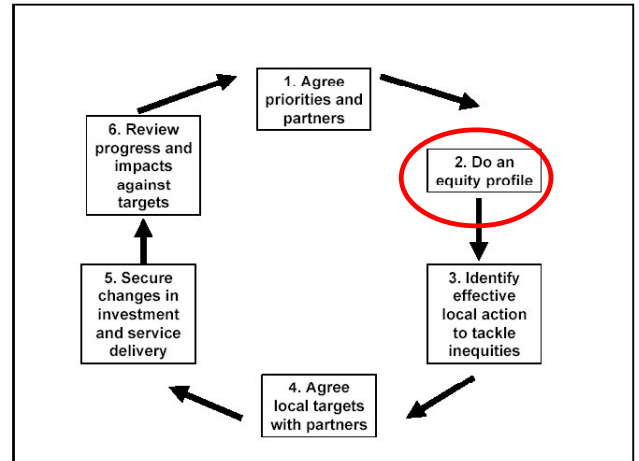
For further information regarding our work programme on HEA visit: www.yhpho.org.uk.

Equity profiling compares how the relationship between need and service provision/use varies across the different *dimensions* of equity*. It involves the process of collating and analysing data and evidence

on need and health inequalities, and the confirming that inequity exists.

* *Dimensions* of equity – e.g. age, gender, disability, ethnicity, socio-economic status, geography.

Figure 1: The Health Equity Audit Cycle



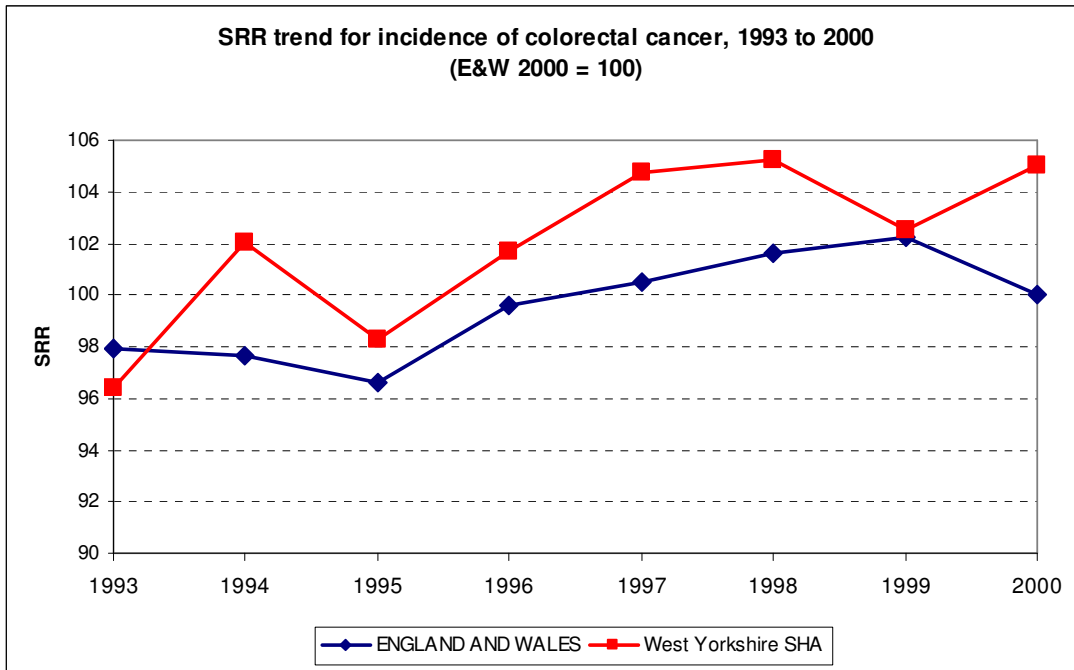
Colorectal Cancer in West Yorkshire

There are approximately 1200 new cases of colorectal cancer each year within West Yorkshire. Approximately 500 people per year die from colorectal cancer. Whilst incidence has increased over the last 10 years both nationally and in West Yorkshire, mortality rates from colorectal cancer have decreased steadily since 1993 (see **Figure 2** and **Figure 3**).

Incidence rates in West Yorkshire have been slightly higher than national averages in recent years, despite a local reduction in incidence in 1999. Mortality rates in West Yorkshire have remained similar to the national average. In 2003 mortality rates for colorectal cancer in West Yorkshire were 7% below the rate for England and Wales as a whole.

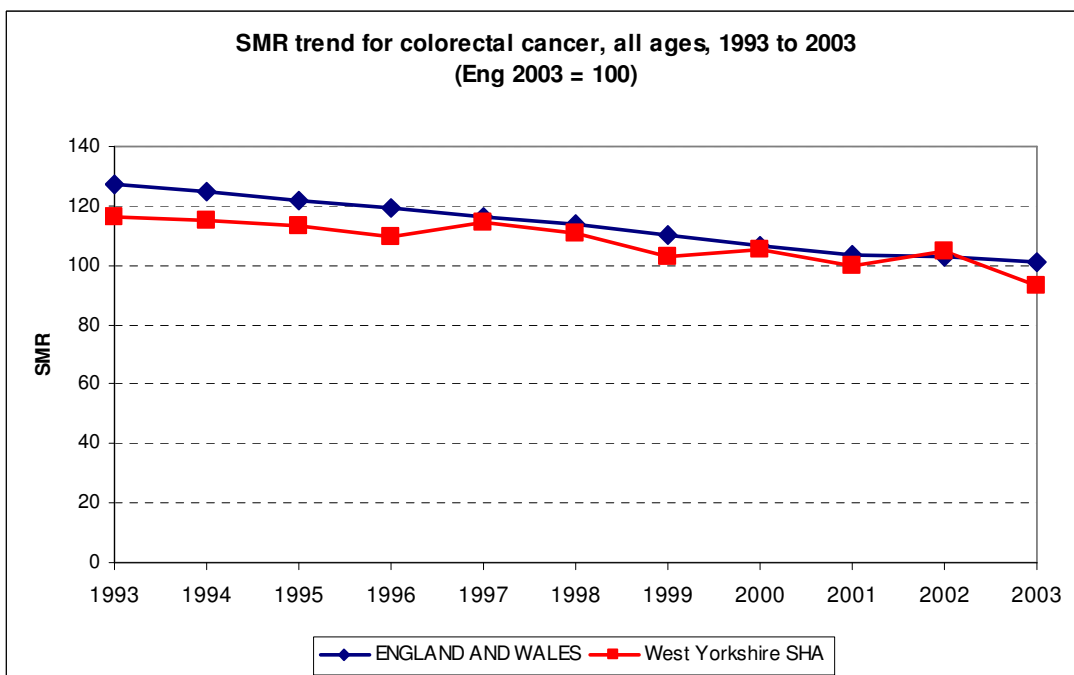
The difference in incidence rates fluctuated in recent years: incidence rates in West Yorkshire were 5% and 3% above national levels in 2000 and 1998 respectively, although there was no difference between the local and national rate in 1999 (note that England & Wales incidence rates are not yet available for 2001 and 2002 from *The Compendium of Clinical Indicators*).

Figure 2: Trends in incidence from colorectal cancer, 1993-2000



Source: Compendium of Clinical and Health Indicators 2003

Figure 3: Trends in mortality from colorectal cancer, 1993-2003



Source: Compendium of Clinical and Health Indicators 2004

Age and Gender

1. Age and gender

1.1 Need: Incidence and mortality

Figures 4 to 6 show incidence and mortality rates for colorectal cancer in males, females and persons by age group for 1998-2002 (five year average). Mortality from colorectal cancer increases dramatically with age with rates for persons aged 75 and over four times those for persons aged 50-74. The mortality rate shows a bias towards men and is more than double in men than women aged 50-74.

Incidence of colorectal cancer increases dramatically with age with rates for persons aged over 75 three times those aged 50-74. The rate is very low in the group aged under 50: consequently the results presented here for this age group should be interpreted with caution. As with mortality, the incidence rate is higher in men than women. Although both incidence and mortality is higher in men, the gender difference in mortality is more significant than the difference in incidence.

1.2 Provision

1.2.1 *Waiting Times – GP referral to diagnosis*

Figures 7 and 8 show how waiting times for patients referred by their GP varied by age group and gender in 2002. Around 20% of persons referred by their GP were diagnosed within 2 weeks, irrespective of gender or age, except persons aged under 50 where 27% waited less than 2 weeks. 46% of persons aged under 50 waited 12 or more weeks, although this influenced by the small number of patients in this age group.

1.2.2 *Waiting Times - diagnosis to treatment*

Figures 9 and 10 show how waiting times from diagnosis to first treatment varied by age group and gender. 50% of patients received their first treatment within 4 weeks, although this varies by age with 47% of those aged 50-74 and 58% of persons aged under 50 waiting 4 weeks or less. 53% of women were treated within 4 weeks compared to 49% of men.

Note

The national two week wait target from GP referral to date first seen relates only to those cases urgently referred by their GP. From the end of 2005 the 31-day target from decision to treat to first treatment relates to all colorectal cancers and the 62-day target from GP referral to first treatment relates to urgent referrals only. The data used here do not represent measures of these targets (due to differences in data definitions) and also relate to the whole population, not just urgent referrals.

1.2.3 *Stage at presentation*

Figures 13 and 14 show the percentage of patients presenting at each stage by age group and gender in 2002. The graph shows that approximately 37% of patients presented at either stage 1 or 2 irrespective of age or gender.

1.2.4 *Treatment*

Figures 11 and 12 show the percentage of patients receiving treatments in 2002, by age group and gender.

In 2002, nearly all patients aged under 74 diagnosed with colorectal cancer received treatment for the disease, which included surgery for 82% of patients in this age group. 72% of patients aged 75 and over were treated, of which 64% were surgically treated.

Rates for all treatment types reduced with age; the main difference in treatment type provided was for chemotherapy where rates reduced from 64% among persons aged under 50 to only 11% for persons aged 75 and over. 10% more males than females with colorectal cancer are treated, of which they receive: 6% more surgery, 4% more radiotherapy and 10% more chemotherapy.

1.3 Equity Issues

- Need as measured by incidence and mortality increases by age particularly in the group aged 75 and over.
- More males than females waited over 4 weeks.
- Treatment rates and type varied by age group, though this was likely to relate to issues around appropriateness of treatment, stage at presentation etc.
- Overall the analysis does not suggest significant issues around equity in service provision relating to either age or gender.

Age and Gender

Need: Incidence and Mortality

Figure 4: males

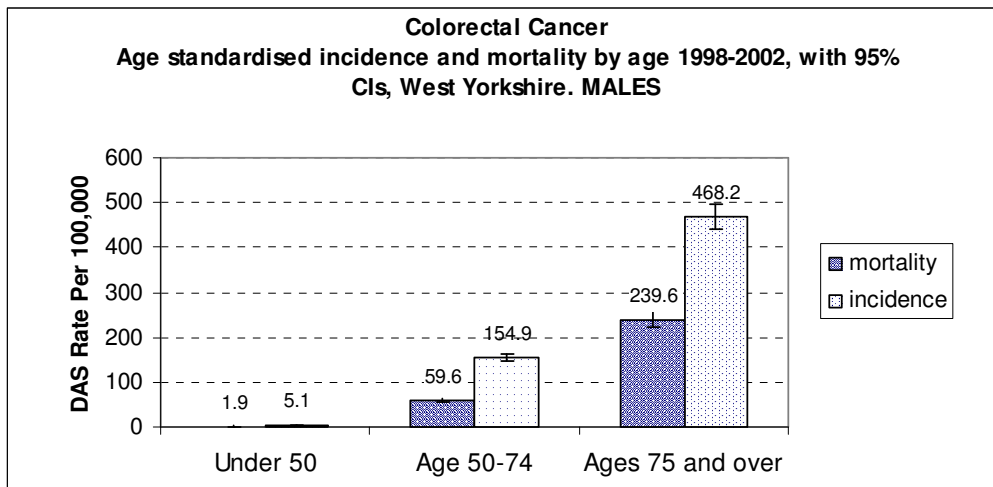


Figure 5: females

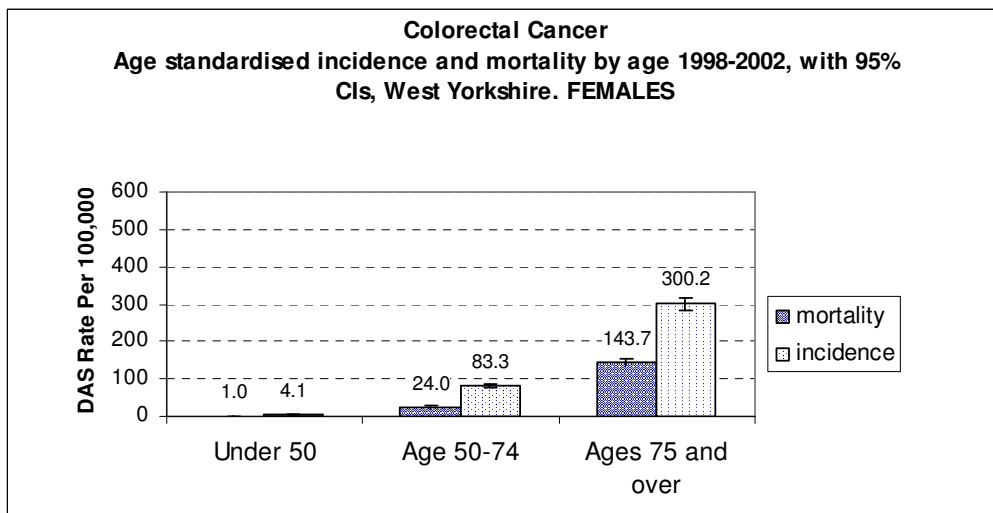
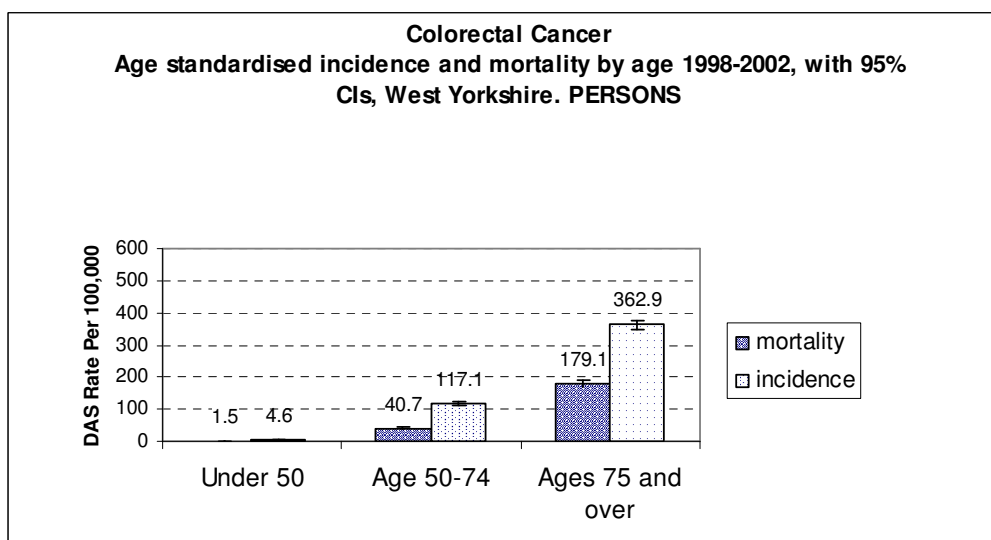


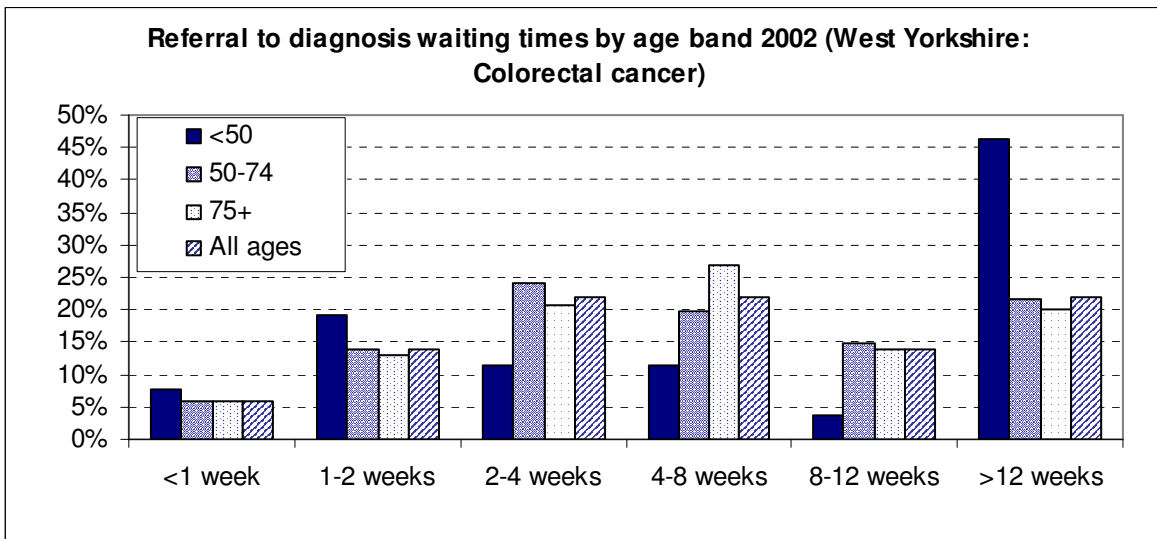
Figure 6: persons



Age and Gender

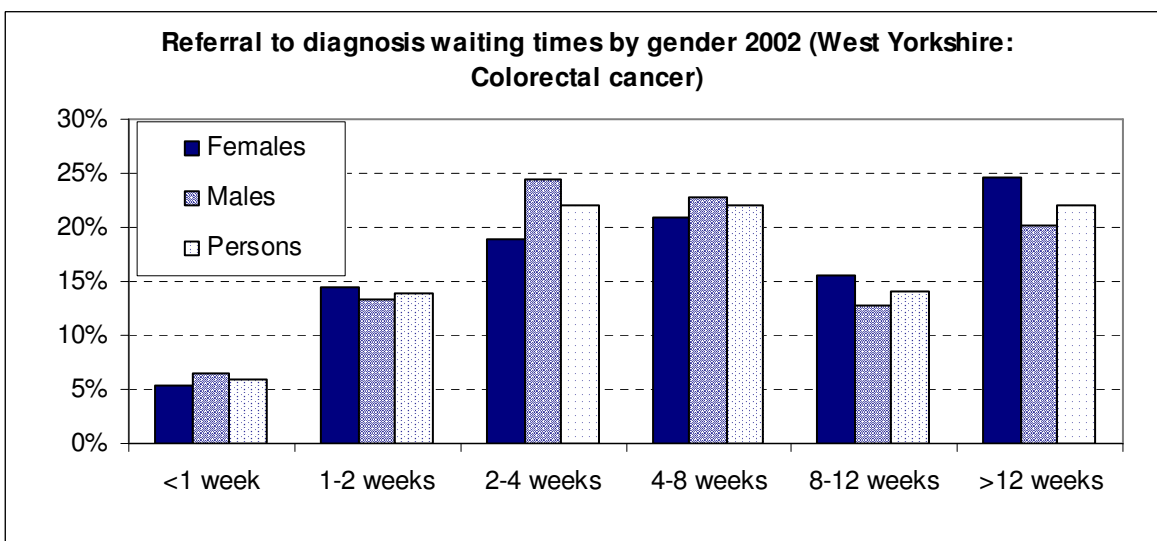
Provision: Waiting Times – referral to diagnosis

Figure 7: Age



*note that these figures are based on a small number of people aged <50

Figure 8: Gender



Age and Gender

Provision: Waiting Times –diagnosis to treatment

Figure 9: Age

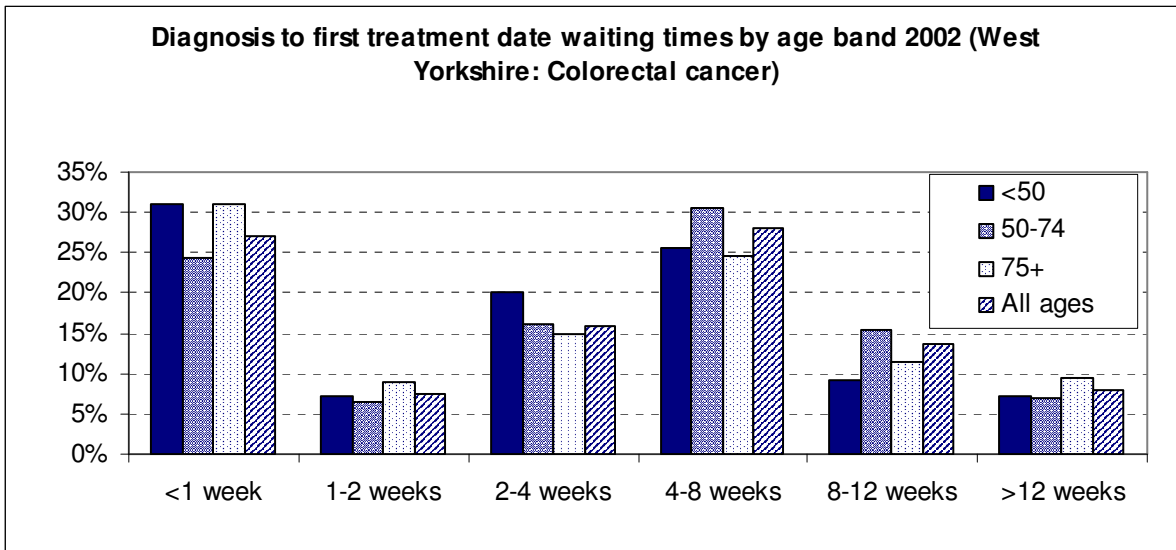
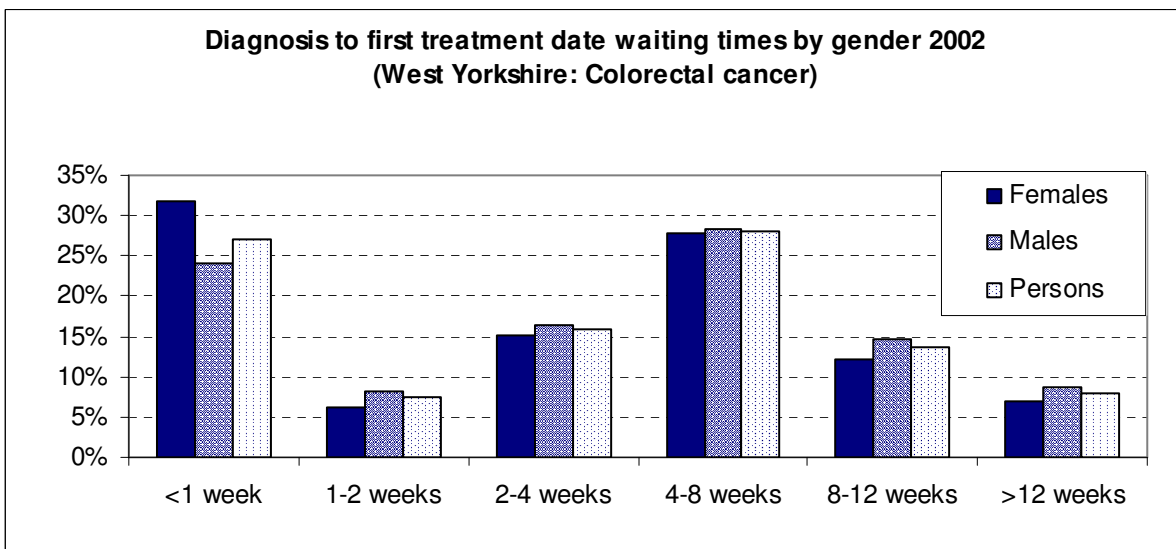


Figure 10: Gender



Age and Gender

Provision - Treatment Type

Figure 11: Age

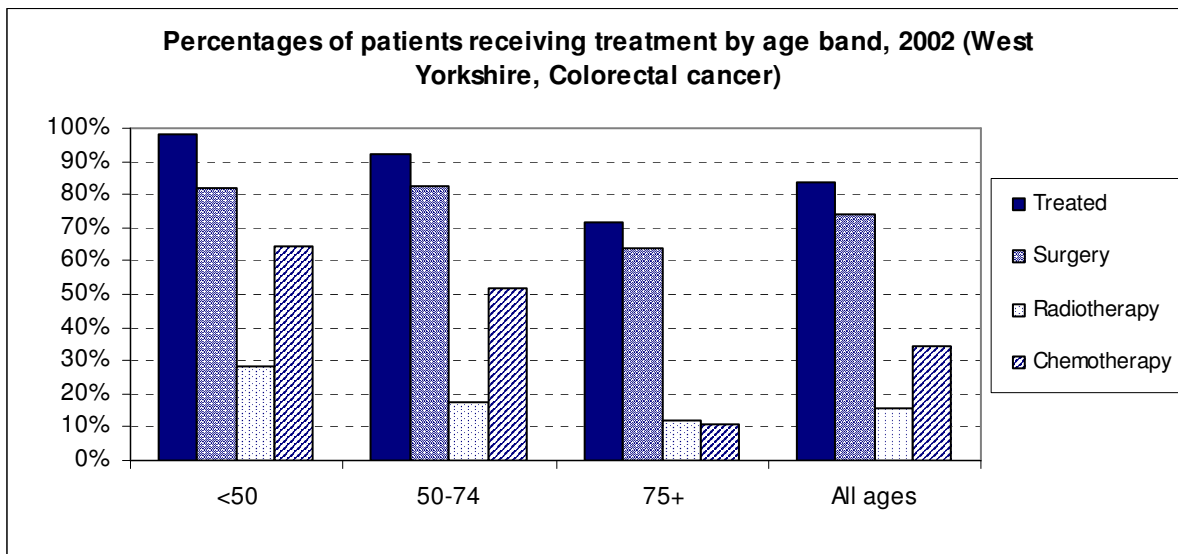
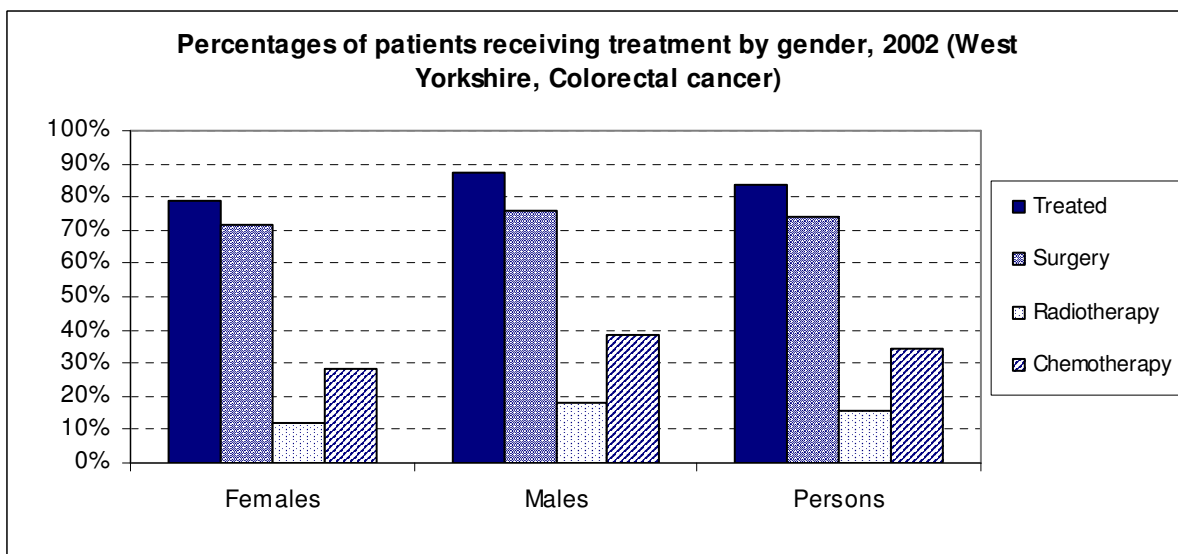


Figure 12: Gender



Age and Gender

Provision – Stage at presentation

Figure 13: Age

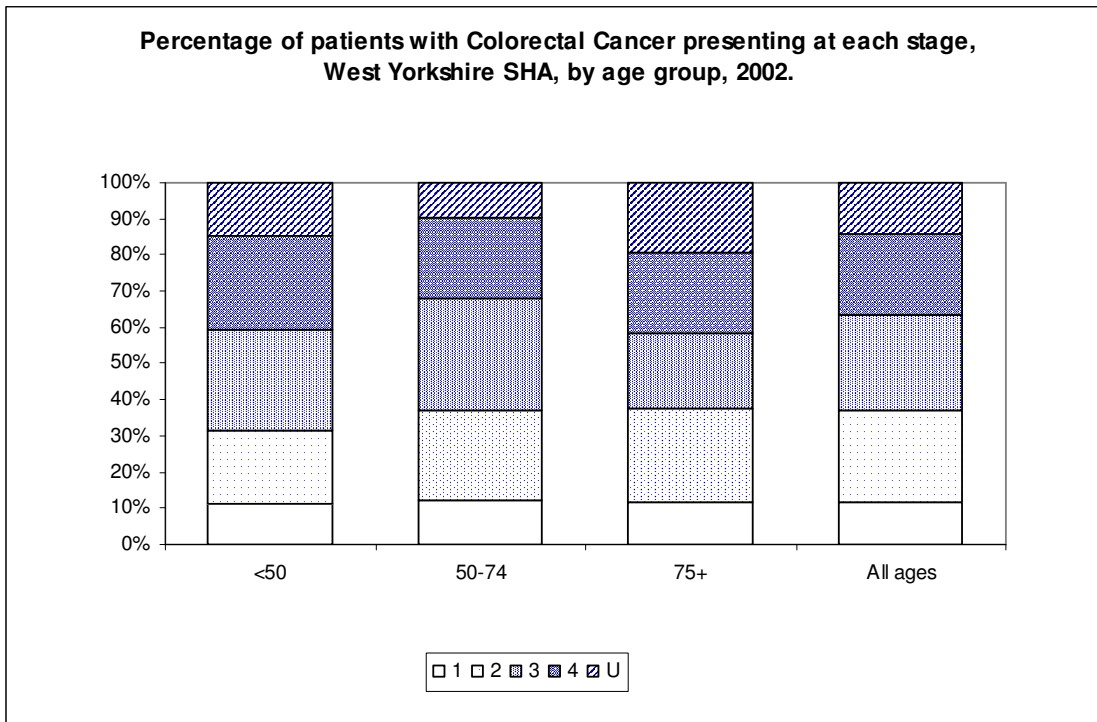
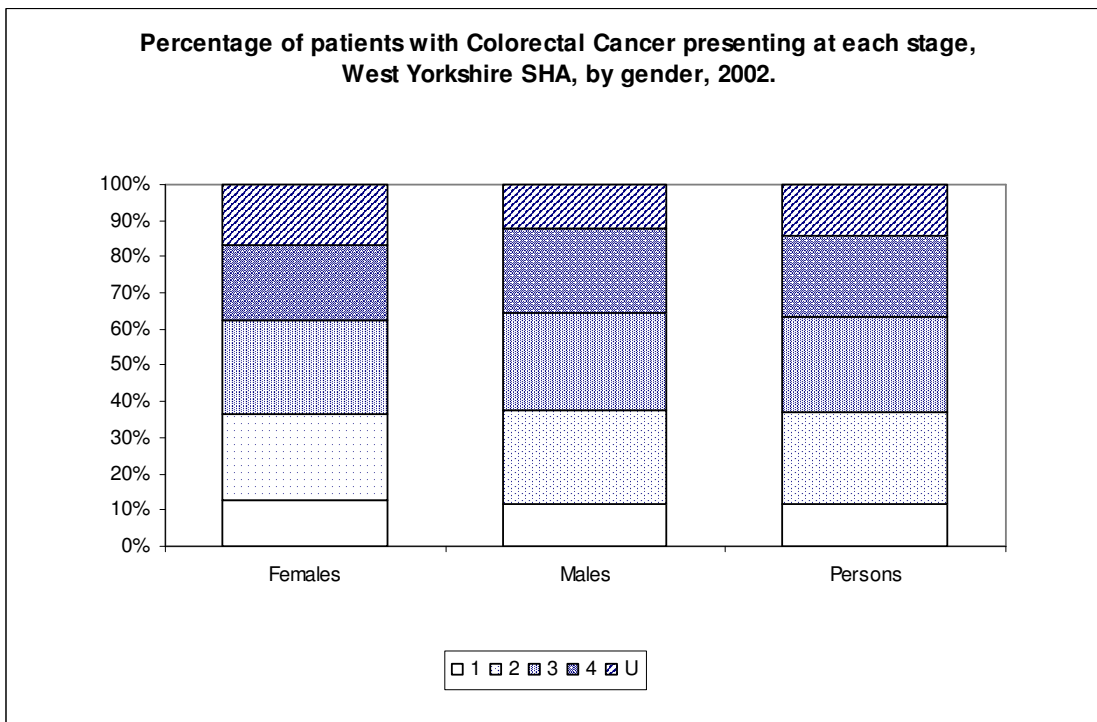


Figure 14: Gender



2. Geography

2.1. Need: Incidence and mortality

Figures 15 and 16 show incidence and mortality rates for colorectal cancer by PCT for 1998-2002 (five year average).

Incidence rates varied from 41.6 per 100,000 for Calderdale PCT to 53.0 per 100,000 for East Leeds PCT.

Mortality rates showed less variation from 14.0 in South Huddersfield PCT to 20.7 in Wakefield West PCT. While Calderdale PCT had an incidence rate below the West Yorkshire average (46.8), its mortality rate of 19.3 was higher than the West Yorkshire rate of 18.3.

2.2. Provision

2.2.1. *Waiting Times – GP referral to diagnosis*

Figure 17 shows large variation in waiting times for patients referred by their GP by PCT in 2002. For example, the percentage of patients waiting 2 weeks or less to diagnosis varied from 47% in North Kirklees PCT to 0% in Leeds West PCT. PCTs have been clustered to help identify potential variation between providers.

2.2.2. *Waiting Times - diagnosis to treatment*

There was similar large variation in waiting times from diagnosis to first treatment during the period (see **Figure 18**). Airedale PCT had the highest percentage of patients waiting less than 4 weeks (69%). Again, the lowest percentage was in Leeds West PCT (34%).

NB. See section 1.2.2 page 4 for explanation on calculation of waiting times.

2.2.3. *Stage at presentation*

There was also variation in stage at presentation when comparing PCTs in the area. The % of patients presenting at Stage 1 or 2 varied from 47% in North Kirklees PCT to 24% in South Huddersfield PCT (see **Figure 23**).

2.2.4. *Treatment*

Figures 19 to 22 show percentage treatment rates by PCT. In 2002 83.6% of patients received some type of treatment for colorectal cancer, with around 74% undergoing surgery. The other main types of treatment provided were radiotherapy and chemotherapy, although percentage treatment rates also varied widely at a PCT level, from 8.2% in Bradford South and West PCT to 25% in Leeds West for treatment by radiotherapy and from 24.4% in Huddersfield Central PCT to 48.1% in East Leeds PCT for treatment by chemotherapy.

2.3. Equity Issues

- The analysis identifies geographic variation in need as measured by incidence and mortality across PCTs in West Yorkshire.
- Large variations in waiting times by PCT – did not appear to reflect variations in need (more likely to be influenced by variation in provider). These are also likely to have become more equivalent following the introduction of national standards.

Geography

Need - Incidence and Mortality

Figure 15: incidence

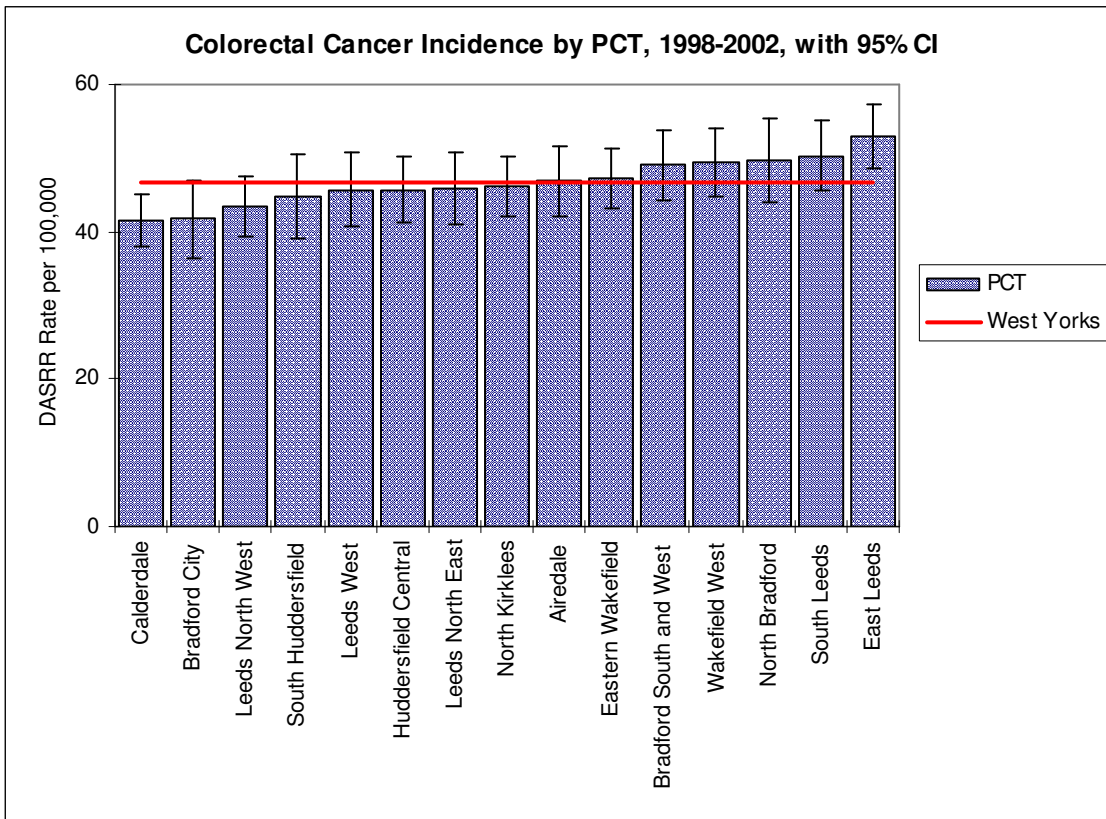
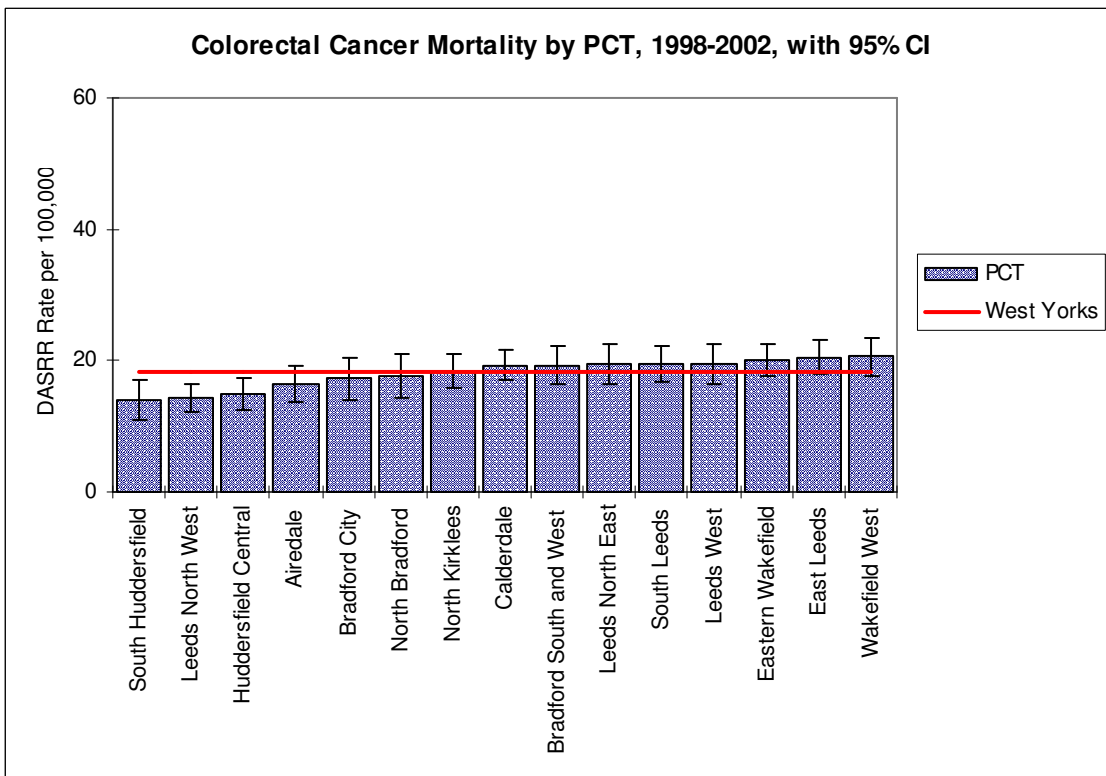


Figure 16: mortality



Geography

Provision - Waiting Times

Figure 17: referral to diagnosis

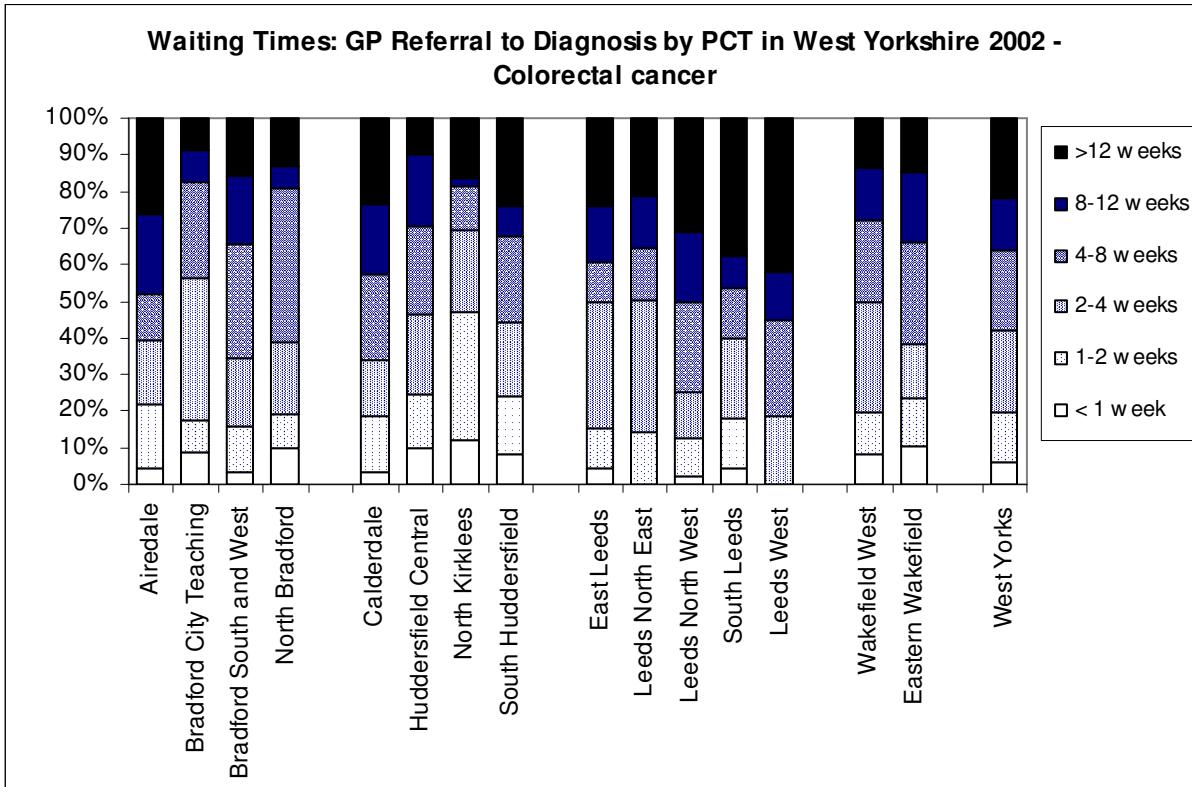
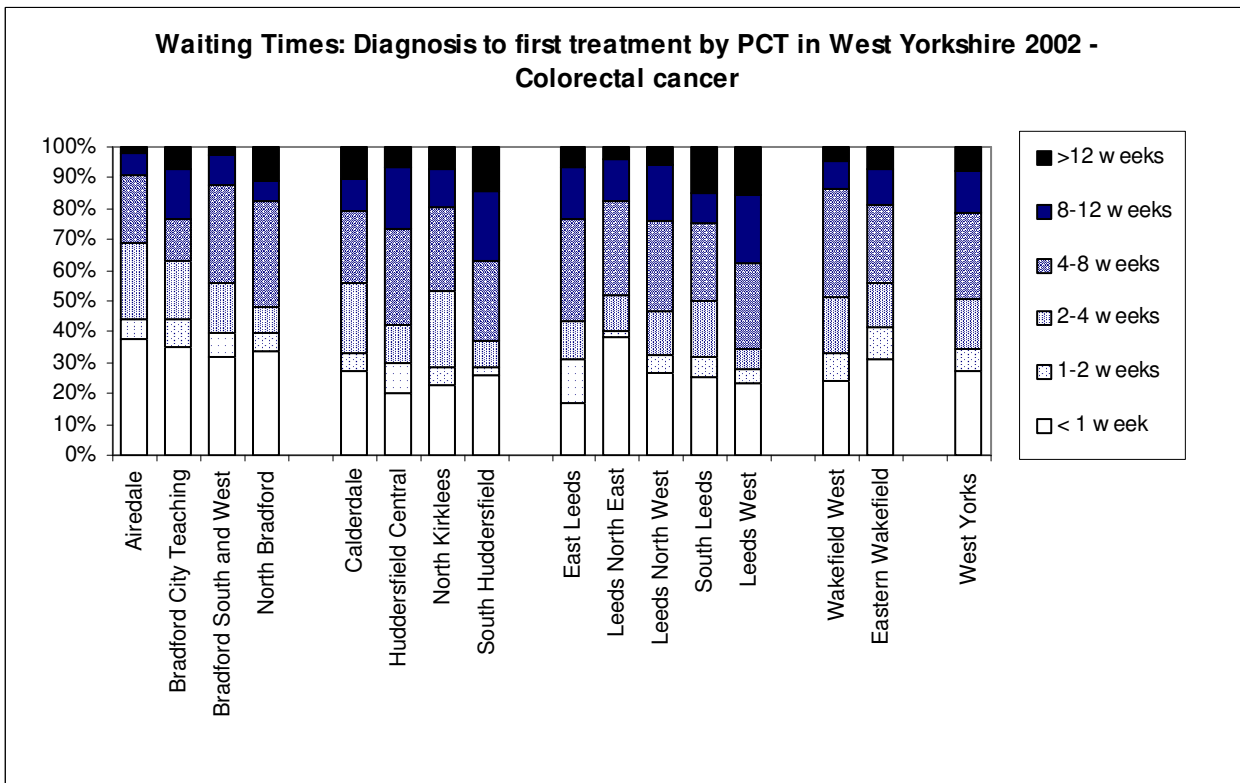


Figure 18: diagnosis to first treatment



Geography

Provision – treatment type

Figure 19: treatment

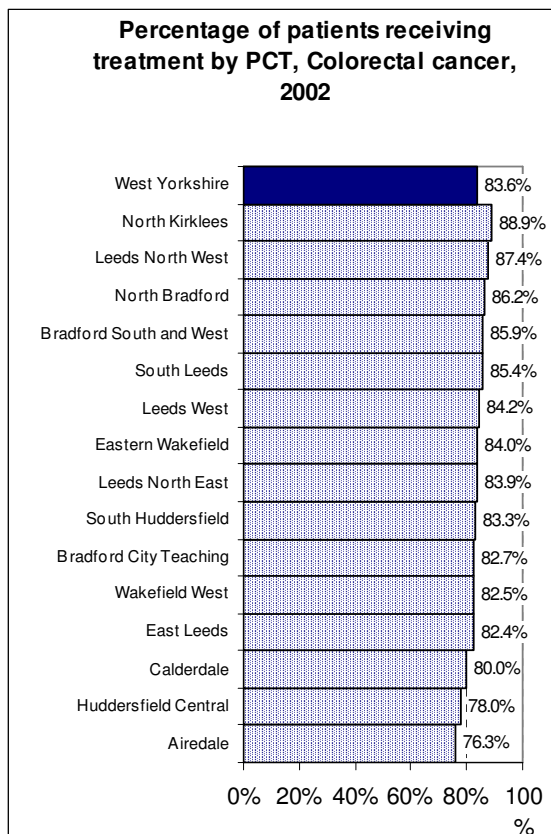


Figure 20: surgery

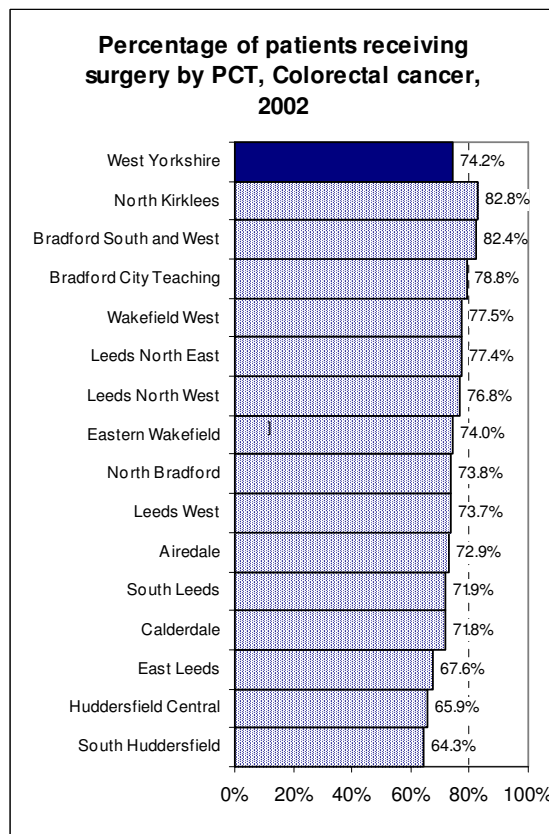


Figure 21: radiotherapy

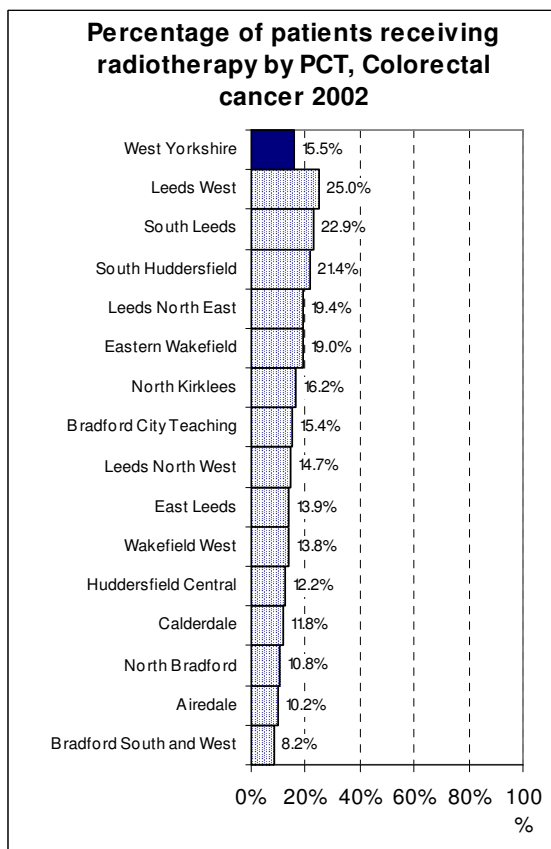
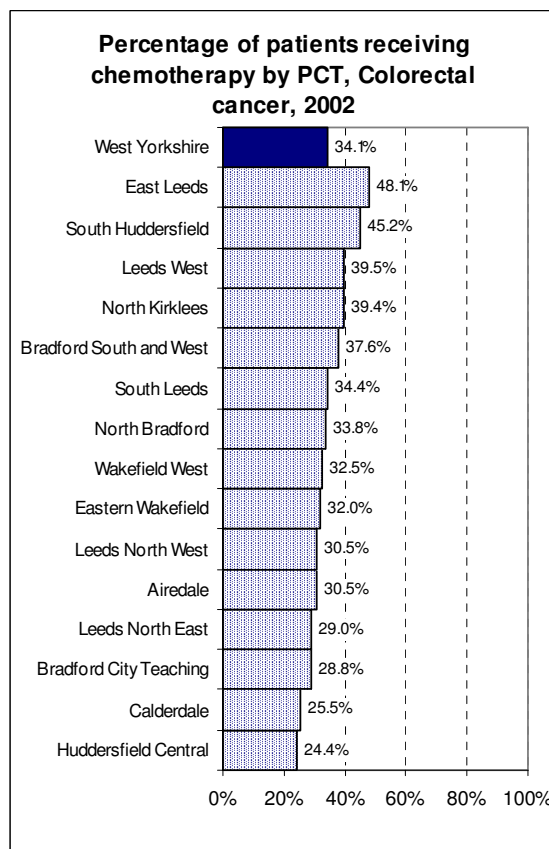


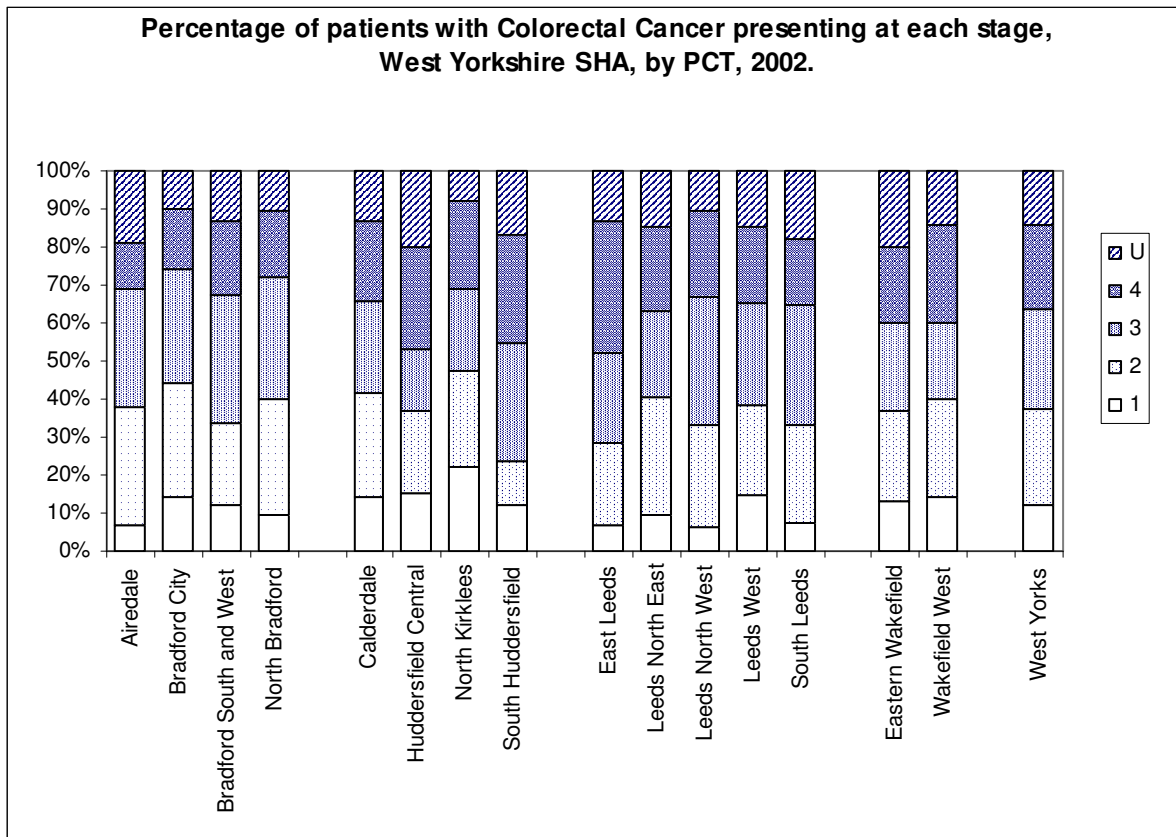
Figure 22: chemotherapy



Geography

Provision – stage at presentation

Figure 23



3. Socio-economic deprivation

3.1. Need: Incidence and mortality

Figure 24 shows incidence and mortality rates for colorectal cancer by quintile of socio-economic deprivation for West Yorkshire for 1998 to 2002 (five year average).

Mortality rates show a slight socio-economic gradient, with higher rates in the more deprived quintiles.

3.2. Provision

3.2.1. *Waiting Times – GP referral to diagnosis*

Figure 25 shows variation in waiting times for patients referred by their GP by deprivation quintile in 2002. 12% of patients in quintile 5 were diagnosed within 2 weeks of referral, compared to 27% in quintile 4. Quintile 5 had the highest percentage of patients waiting over 12 weeks to diagnosis.

3.2.2. *Waiting Times - diagnosis to treatment*

There was little variation in waiting times by deprivation quintile with around 50% or more patients waiting less than 4 weeks, except for quintile 4 where only 44% were treated within 4 weeks of diagnosis. (see **Figure 26**).

3.2.3. *Stage at presentation*

There was variation in stage at presentation when compared by deprivation quintile, for 2002 (see **Figure 28**). Interestingly patients from the most affluent group were less likely to present at an early stage (31%), with patients from quintile 3 most likely to present earlier (42%).

3.2.4. *Treatment*

Overall treatment rates were similar for all quintiles at around 82%. Quintile 3 had a slightly higher rate of 87% (see **Figure 27**).

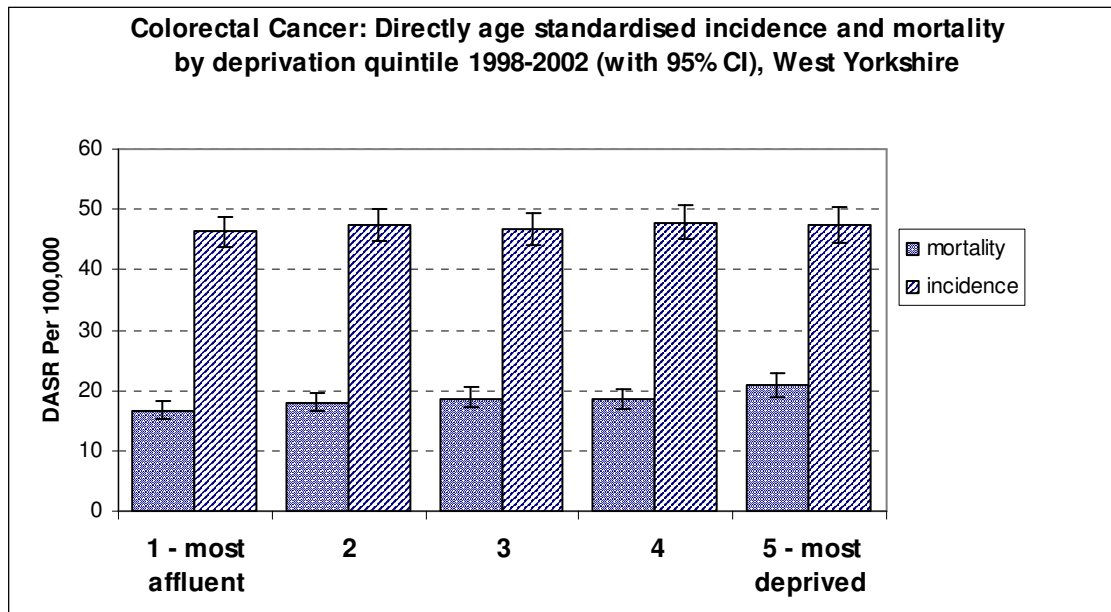
3.3. Equity Issues

- Despite need as measured by incidence indicating little variation, mortality tends to be higher in less affluent populations.
- There was no clear evidence of socio-economic inequalities in waiting times during 2002
- Similarly there was little variation in types or rates of treatment during the period.
- Overall, there is relatively little variation in service provision by deprivation quintile across West Yorkshire. Where variation does occur it does not indicate a direct gradient in relation to deprivation quintile.

Socio-economic deprivation

Need: Incidence and Mortality

Figure 24



Socio-economic deprivation

Provision: Waiting Times

Figure 25

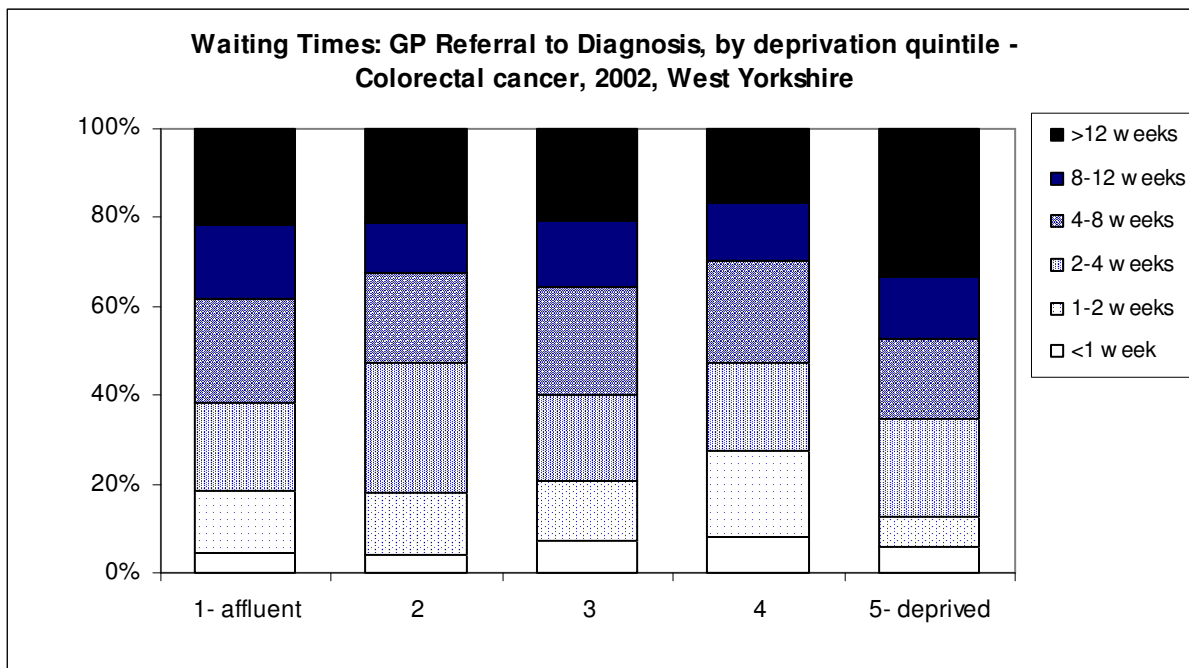
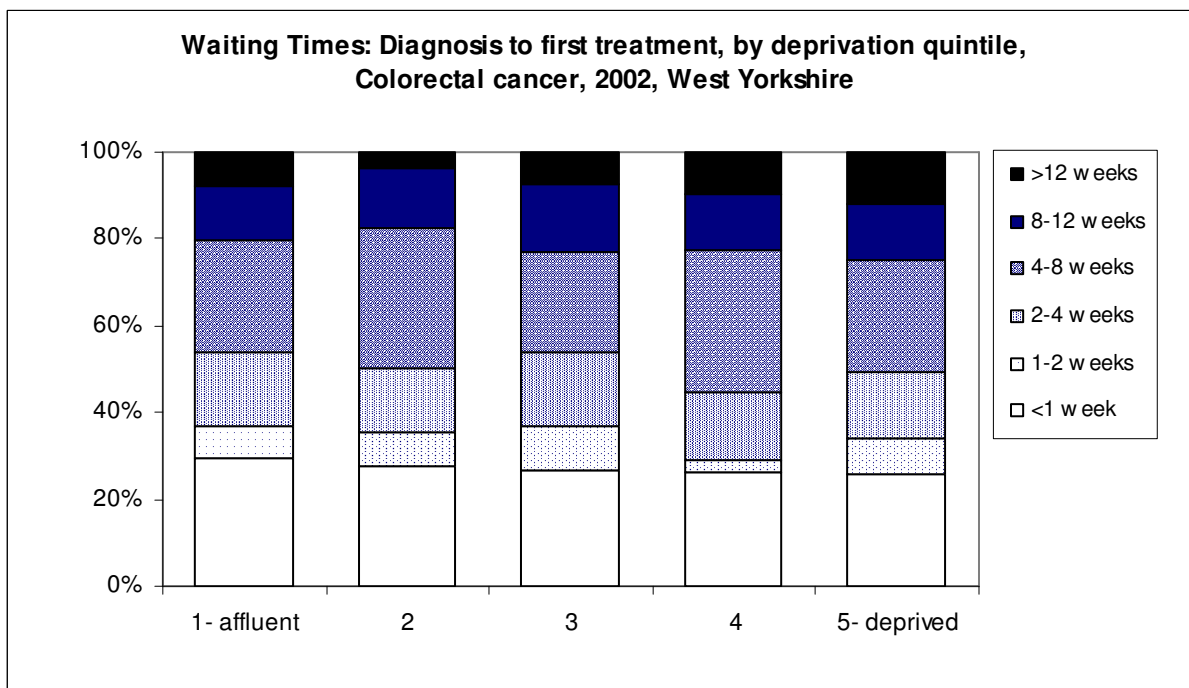


Figure 26



Socio-economic deprivation

Provision – treatment type

Figure 27

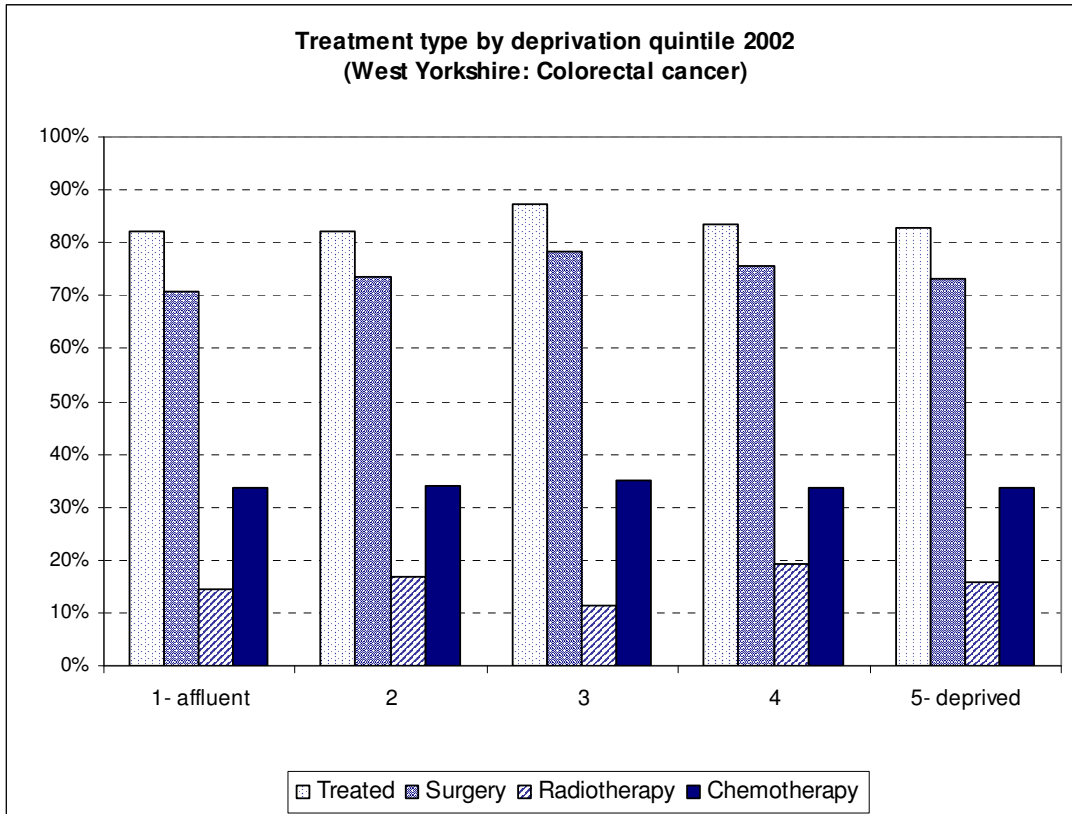
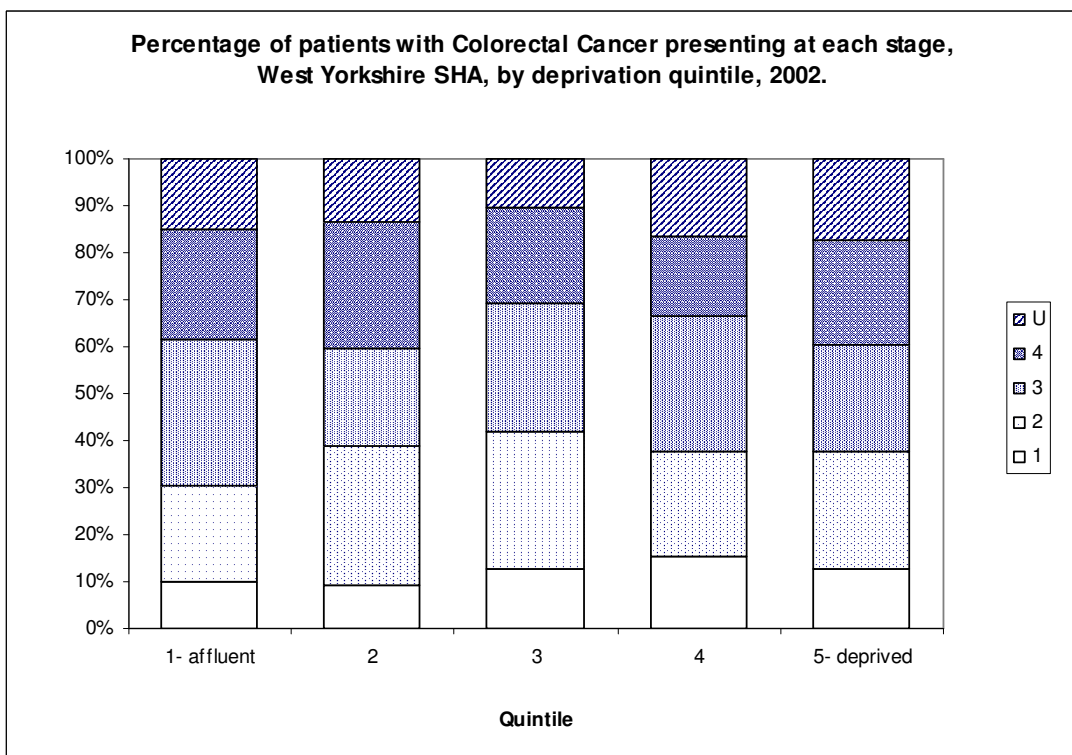


Figure 28



4. Summary

- Analysis by age is difficult to interpret in terms of equity, as elements of service provision are affected by these factors.
- The analysis has not identified clear evidence of inequalities relating to either age or gender.
- Similarly there was little evidence to suggest variations in service provision related to socio-economic status.
- Overall, on the basis of this analysis, the main evidence of variations in service provision appears to be geographical, rather than related to age, gender or socio-economic status. These variations do not appear to relate to need as measured by mortality or incidence. The variations found may actually relate primarily to provider variation across West Yorkshire.
- The analysis has only looked at four dimensions of equity. Others such as ethnicity, disability, rurality or access (other than geographical variation) have not been considered.
- This profile focuses on a limited number of measures of secondary care provision for colorectal cancer. The equity profile could encompass a huge range of measures looking at prevention as well as other measures of treatment and service provision– e.g. primary care provision, staffing numbers, survival rates etc.
- As with all cancers, colorectal cancer is a complex area around which to undertake equity profiling. Future profiles may benefit from a much more specific focus, for example looking at a single measure of provision in more detail, perhaps focussing on a single dimension of equity.
- Finally, given the national focus around developments of standards in service provision in secondary care, it may actually not be possible to use the results of equity profiling to inform changes to the way these services are delivered. A more useful approach may be to focus profiling activities in areas such as cancer prevention or primary care provision

where there may be more scope for reconfiguring local services to reflect variation in need.

Next steps

- Discuss with cancer leads and commissioners across the SHA area.
- Identify any possible actions to address issues raised.
- Identify further more specific analysis requirements around equity profiling in this area.
- Undertake further analysis at PCT level, if required (completed by local teams).

References

1. Department of Health. Tackling health inequalities: a programme for action. London: Department of Health, 2003 (July).
2. Department of Health. National Standards, Local Action: Health and Social Care Standards and Planning Framework 2005/6-2007/8. London: Department of Health, 2004 (July).
3. <http://ratings2004.healthcarecommission.org.uk/Trust/Indicator/IndicatorDescriptionShort.asp?IndicatorId=4247> (Healthcare Commission URL).
4. Aspinall PJ & Jacobson B. Health Equity Audit: A Baseline Survey Of Primary Care Trusts In England (Pre-Publication Draft). Association of Public Health Observatories/London Health Observatory. 2004 (September).

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Appendix: Data Sources and Notes

1. Population

Source: ONS Mid 2001 population estimates (revised September 2004)*

*except for IMD quintile calculation – based on Census 2001 ward populations

2. Mortality

Source: ONS annual deaths extract

Period: 1998-2002

ICD Codes: Colorectal Cancer C17- C21

Standardisation method: Directly age standardised annual mortality rate, using European Standard population. 95% CI use 'Byar's method'

3. Incidence

Source: NYCRIS, extracted 2/11/2004

Period: 1998-2002

ICD Codes: Colorectal Cancer C17-C21

Standardisation method: Directly age standardised annual incidence rate, using European Standard population. 95% CI use 'Byar's method'

4. Waiting Times

Source: NYCRIS, extracted 2/11/2004

Period: 2002

ICD Codes: Colorectal Cancer C17-C21

Notes:

GP referral to diagnosis times only includes records where a GP referral date has been recorded.

GP referral date, diagnosis date and first treatment date are all collected within the cancer registry definition and are not necessarily the same as those data items collected for the Cancer Waiting Times Database. The data also relate to the whole population, not just those urgently referred.

5. Stage at presentation

Source: NYCRIS, extracted 2/11/2004

Period: 2002

ICD Codes: Colorectal Cancer C17-C21

Codes used:

Stages 1 to 3 colorectal cancers have been staged according to the Dukes classification where Dukes A = 1, Dukes B = 2 and Dukes C = 3. Stage 4 represents any stage 1 to 3 with metastatic disease at presentation.

Stage U Stage not known or insufficient information to be assigned.

6. Treatment Types

Source: NYCRIS, extracted 2/11/2004

Period: 2002

ICD Codes: Colorectal Cancer C17-C21

7. Socio-economic deprivation

Source: Indices of Multiple Deprivation 2004, ward scores, (ODPM 2004)

Quintiles based on West Yorkshire population (Census 2001).

Note on ICD codes

Codes use ICD-10.

Colorectal Cancer is usually reported as C18-C21; C17 is included here in line with the codes used in the *Compendium of Clinical Indicators*. C17-C21 correspond to ICD-9 152-154.