

The Health of the Population 2002

Report of the Director of Public Health

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Introduction

This is the first report specifically on the health of the people who live in Bath and North East Somerset. It builds on a tradition that stretches back almost fifteen years during which time the health authorities that preceded the Primary Care Trust published information and commentary on public health in this part of the world.

The Bath and North East Somerset Primary Care Trust (the PCT) is responsible for ensuring a report like this is published each year but it is itself only just eighteen months old at the time of writing. This report is therefore only the beginning and it will grow in depth and coverage as time goes by. The PCT has the same boundaries as the council and as will be seen from the report, this has given our work with communities (as opposed to individual patients in our services) a major boost, as many of the goals of the Local Authority are about public health improvement.

This report is for all those who play a part in improving the health of the population including people in the PCT and the local council, those in health centres and hospitals and in the voluntary sector who provide our health care and service users and members of the general public.

Section 1 aims to provide information on the state of health of our population and to indicate what sort of data are available and where to get them. It highlights some of the key determinants of health including our lifestyle and environment.

Section 2 looks at some of the important diseases where action is being taken to prevent illness and improve services.

Section 3 is about the measures which we take to protect the public from disease or identify illness at an early stage when treatment is likely to be successful.

We have tried to make this report as simple to read as possible but it is not possible to completely avoid technical language. A Technical Note and a Jargon Explained section is provided later to help with this.

Finally, please let me know what you think of this report and more importantly, about any part of its contents (contact details will be found at the end).

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Bath and North East Somerset Primary Care Trust

Acknowledgements

I would like to thank all those who provided information for this report and in particular, John Boyles, Susan Hamilton, Stuart Harris, Angela Raffle and Michael Shepherd from the Avon Public Health Network.

Section 1

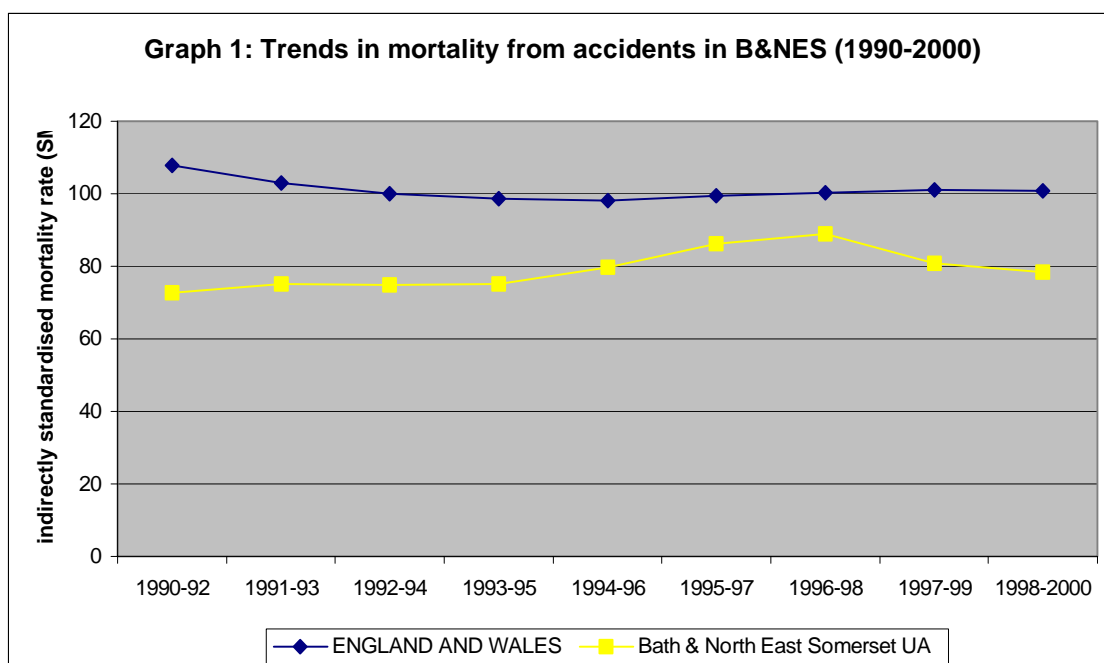
Health and Well Being in Bath and North East Somerset

1. Trends in Mortality

Injury

Injury from so-called accidents are the single largest cause of death in young people in the UK. Between 1998 and 2000, there were 30 deaths a year from accidents in B&NES, approximately two thirds of which were among men.

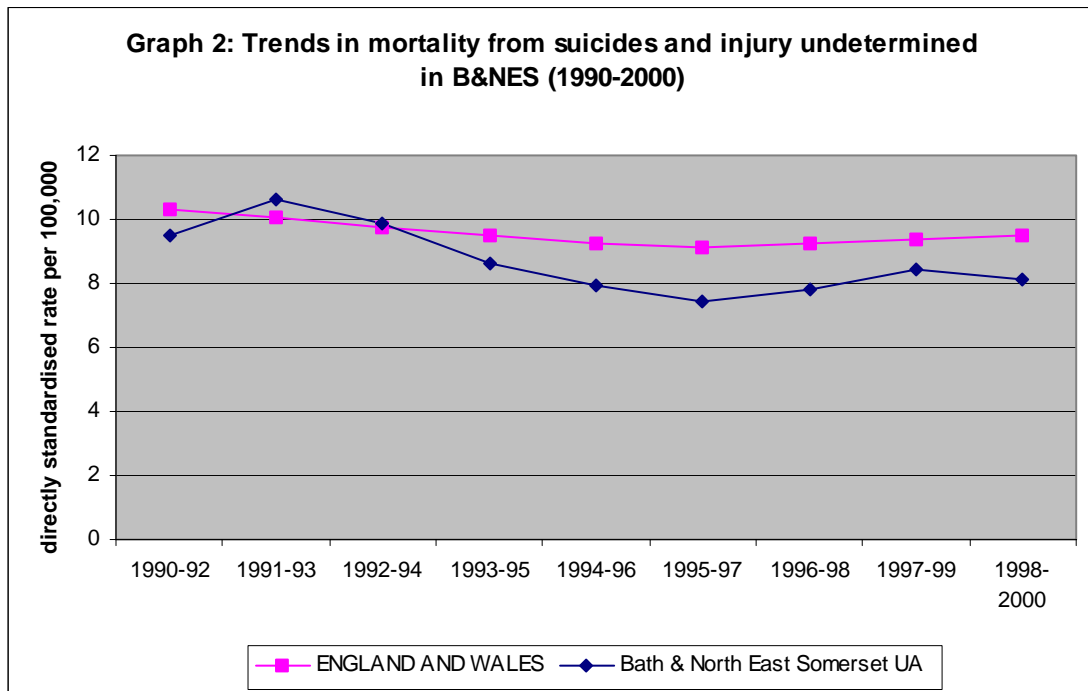
Graph 1 shows the changes in mortality rates compared with the England and Wales mortality rate in the nine year period 1990-2000. While there has been little change in the national rate over these years, the mortality rate in B&NES has fluctuated slightly but always remained below that of England and Wales.



Source: Compendium of Clinical Indicators 2001

Suicides

The mortality rate from suicides and 'undetermined' injury in B&NES has been falling from a peak in the early 1990's (see graph 2). Between 1998 and 2000, there were 14 deaths a year from suicides and undetermined injury in B&NES, most of whom were men.

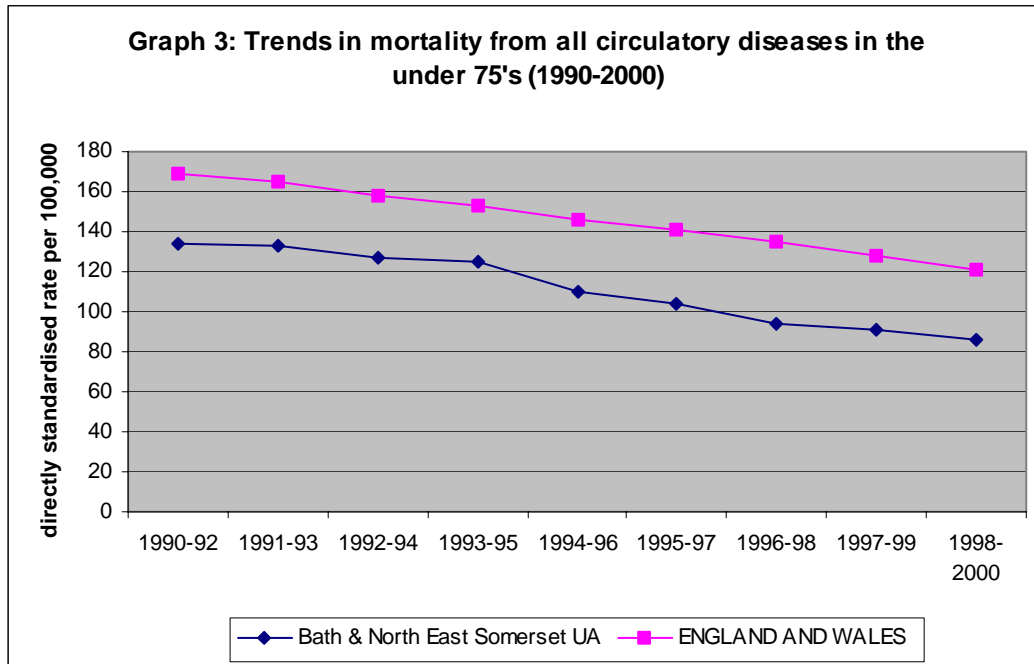


Source: Compendium of Clinical Indicators 2001

Circulatory Diseases

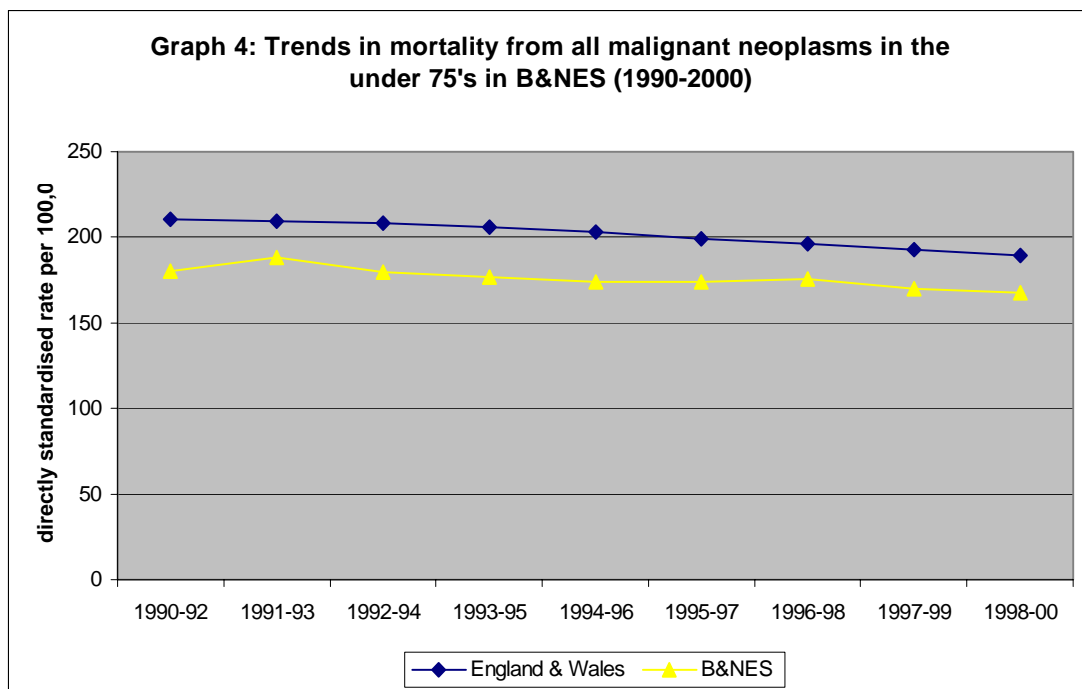
Circulatory diseases, which include coronary heart disease and stroke, are the second main cause of premature death in adults in B&NES. There are 165 deaths a year from circulatory disease in the under 75s in B&NES (1998-2000). The rate has been falling steadily over the last 10 years in line with the national trend, and has remained below the national rate during this period (see graph 3).

Source: Compendium of Clinical Indicators 2001



Cancer

Cancer is the most common cause of premature death in adults in B&NES, accounting for 38% of all deaths in people aged 15-64 in 2000. Over the last 9 years (1990-2000), the age standardised mortality rate for all cancers in the under 75's in B&NES has been lower than the England and Wales rate, and has fallen in line with the national average during that period (see graph 4 below).



Source: Compendium of Clinical Indicators 2001

Progress Towards Targets

Saving Lives - Our Healthier Nation is the national plan to reduce the burden of illness in the population. It contains targets to reduce the death rate from accident or suicide in all ages and cancer in the under 75 year olds by at least a fifth by 2010 and from circulatory disease in the under 75's by at least two fifths by 2010.

If the reduction in mortality from cancer and circulatory diseases continues at the rate that has occurred since the 1995-1997 baseline, both targets will be met in B&NES. Monitoring progress towards the targets of mortality from accidents and suicides at a PCT level is difficult due to the relatively small number of events (see Table 1 below).

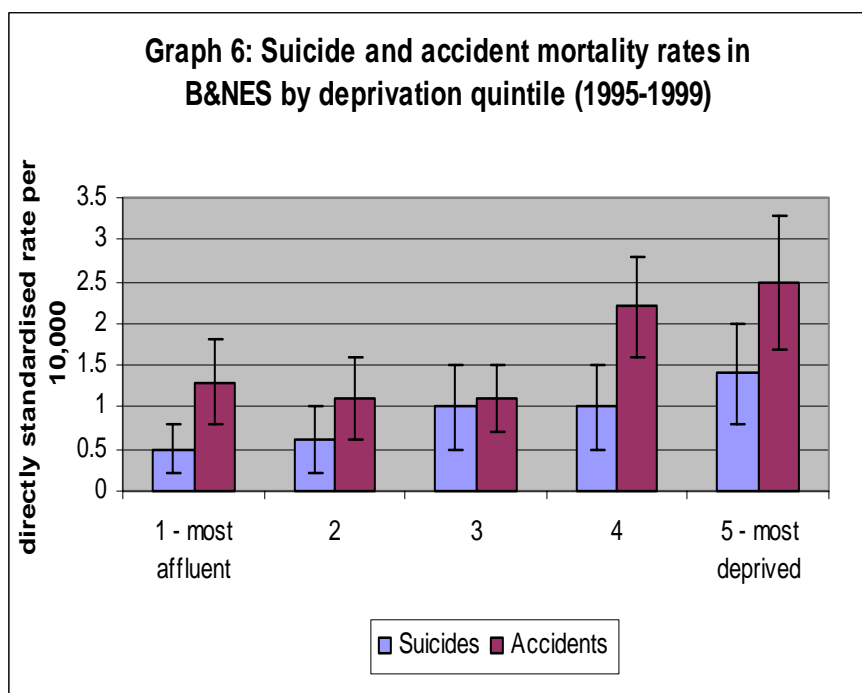
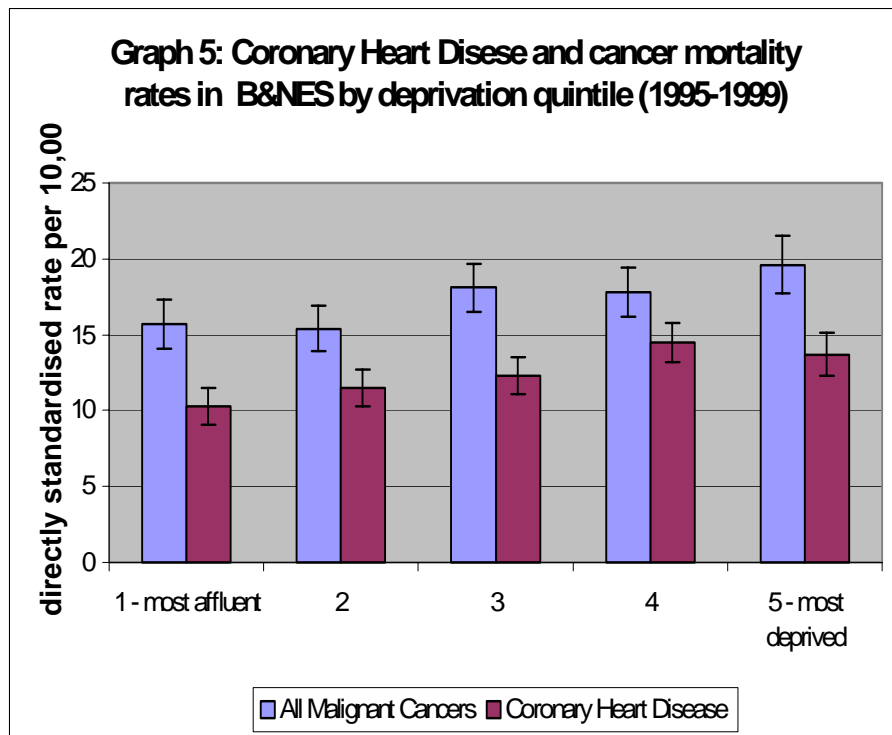
The Public Service Agreement with the NHS is the way the service is held to account by the government and it contains a key target for reducing the gap between deprived and affluent people in terms of life expectancy and infant mortality. There are still a number of difficulties about measuring this (see later) but action is under way and progress will be reported in full in the annual health report next year.

Topic	Target	Baseline (1995-1997)	Latest (1998-2000)	Target (2010)
Accidents (all ages)	Reduce death rate by at least one fifth by 2010	16.1	14.3	12.9
Cancer (age <75)	Reduce death rate by at least one fifth by 2010	118.3	113.1	94.6
Circulatory Diseases (age <75)	Reduce death rate by at least two fifths by 2010	104.5	86.1	62.7
Suicides & injury undetermined (all ages)	Reduce death rate by at least one fifth by 2010	7.4	8.1	5.9

Table 1: Progress towards Our Healthier Nation targets for reducing mortality in B&NES

Mortality & Deprivation

Mortality for the main causes of premature death is linked to deprivation. Graphs 5 and 6 shows that the mortality rates for the major causes of premature death (circulatory diseases, suicides, accidents and malignant cancers) increase as deprivation in the population increases. For all these causes of death, people living in the most deprived fifth of neighbourhoods in B&NES had significantly higher mortality rates those in the most affluent areas.

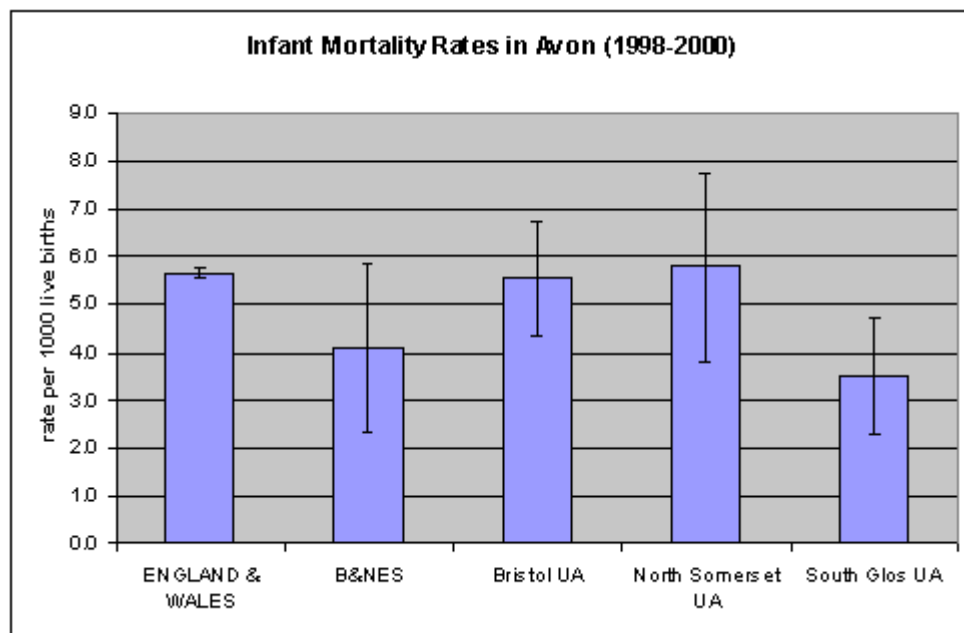


2. Targets for Reducing Inequalities of Health

Infant Mortality

'Starting with children under one year, by 2010 reduce by at least 10% the gap in mortality between manual groups and the population as a whole'

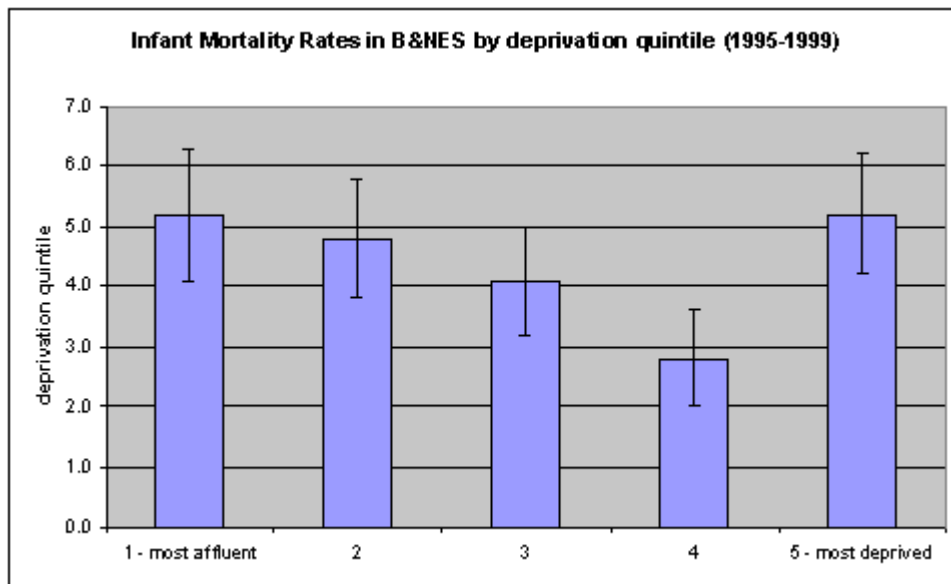
This target refers to the whole country and so is not monitored formally for this area. There would be problems in doing so since birth registrations are not recorded by the family's occupational group and the number of deaths are small. However, it is possible to estimate the position in Bath and North East Somerset:



Between 1998 and 2000, there were 21 deaths in B&NES in infants under 1, a rate of 4.1 per 1000 live births. This was not significantly different from the England and Wales average of 5.8 per 1000 live births (see graph below).

Source: Compendium of Clinical Indicators 2000 (<http://nww.nchod.nhs.uk/>)

There was no significant difference between in Infant mortality rates in the most deprived quintile of B&NES and the least deprived between 1995 and 1999 (see graph below).



Source: ONS birth & death registrations; Townsend score (1991 census)

Data: The data used in this graph is available on an [Excel Spreadsheet](#).

Further information

The Foundation for the Study of Infant Deaths

<http://www.sids.org.uk/fsid/>

Department of Health - Reduce the Risk of Cot Death

<http://www.doh.gov.uk/cotdeath/index.htm>

Health Promotion Service Avon - Avonsafe

http://www.hpsa.org.uk/health_topics/accidents/index.htm

Confidential Enquiry into Still Births and Deaths in Infancy

<http://www.cesdi.org.uk/>

A recent government report 'Tackling Inequalities'

(<http://www.doh.gov.uk/healthinequalities/ccsrsummaryreport.htm>) has looked at the kind of intervention which is likely to have the most impact on this target and broadly these are:

- Building on the Sure Start initiative – a package of measures which are funded specifically and made available in defined areas of deprivation which are designed to support young families; a Sure Start initiative is about to begin in the south of Bath and will run for a number of years.
- Reducing smoking in pregnancy – see later sections of this report
- Preventing unwanted teenage pregnancy – see later sections of this report
- Improvements in housing conditions
- Other early interventions by the NHS – for example, increasing immunisation and breast feeding

Life Expectancy

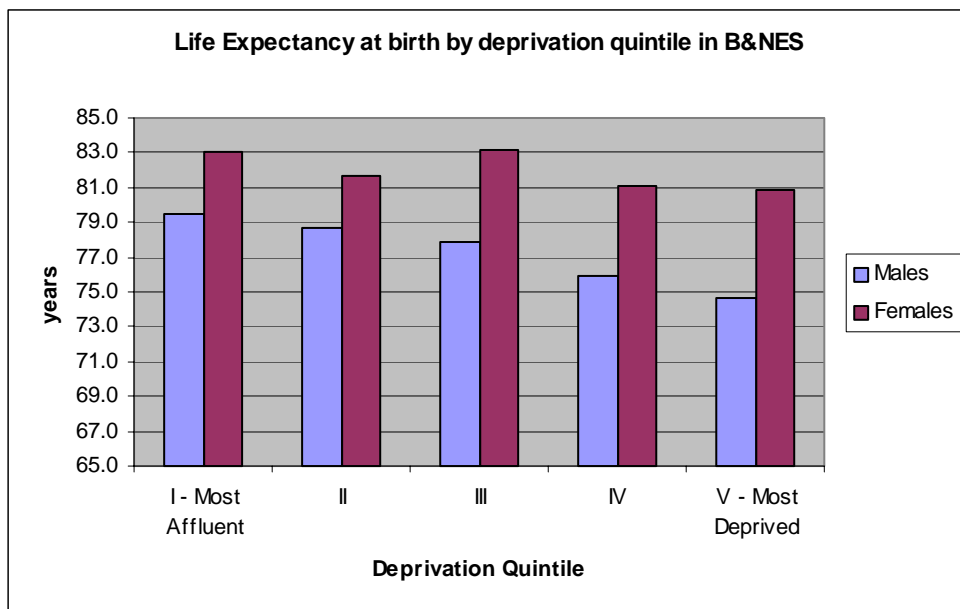
'Starting with Health Authorities, by 2010 reduce by at least 10% the gap between the quintile (*fifth*) of areas with the lowest life expectancy at birth and the population as a whole.'

This target is about reducing inequalities between different parts of the country but it should apply just as much to the inequalities between different parts of Bath and North East Somerset.

For the period 1996-2000, life expectancy at birth in Bath and North east Somerset PCT was 77.3 years for males and 82.0 years for females.

The corresponding figures for the South West Region were 76.5 years and 81.2 years and for England and Wales, they were 75.2 years and 80.2 years.

The gap in life expectancy between the deprived and the affluent parts of Bath and North East Somerset as measured by Townsend Score deprivation quintiles is shown below (the Townsend score is a measure based on census information about access to amenities, housing conditions and employment for small areas of the country). For males in particular there is a steady decrease in life expectancy as deprivation in small areas increases. Males in the most affluent quintile can expect to live on average 4.8 years longer than those in the most deprived quintile. The trend for women is also evident, though less pronounced as that for men. Females in the most affluent quintile have an average life expectancy 2.2 years greater than those in most deprived quintile.



Source: ONS mortality data; 1991 census for Townsend score for deprivation

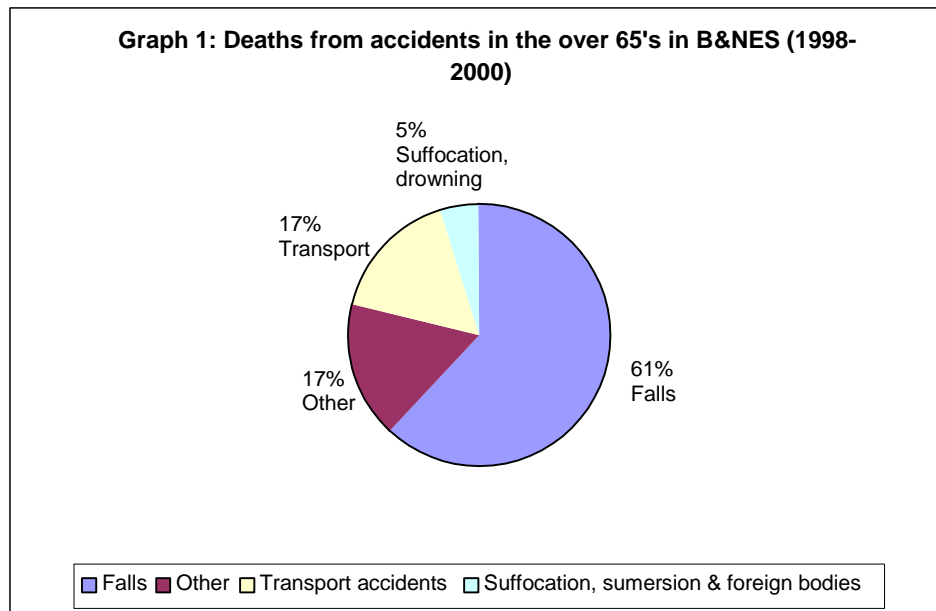
Interventions most likely to help reduce this gap (according to the report 'Tackling Health Inequalities'

<http://www.doh.gov.uk/healthinequalities/ccsrsummaryreport.htm>) are as follows:

- Reducing smoking in manual social groups – smoking cessation services have been markedly successful in Bath and North East Somerset (see later in this report)
- Prevention and management of other risk factors in primary care (about diet, exercise, hypertension control etc) – appropriate programmes are in place through the health promotion department work programme and development initiatives underway in primary care.
- Environmental improvements to housing quality – for example, the council is strongly backing the fuel poverty strategy
- Tackling over-50s where greatest impact is likely to be seen.

3. Falls in Older People in Bath and North East Somerset

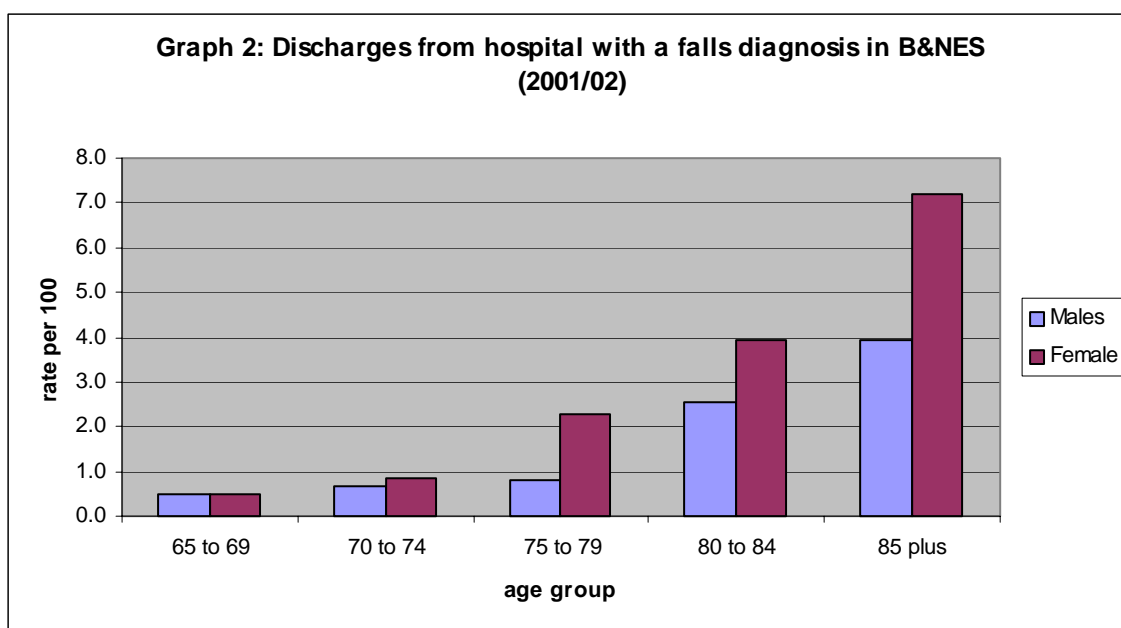
Falls are an important cause of disability and the main cause of death from accidents in older people (see graph 1). Between 1998 and 2000, 26 people in B&NES aged over 65 died as the result of a fall. As well as the physical consequences, falls also impact on the psychological well-being of older people, and can lead to loss of confidence, social isolation and depression.



Source: ONS

In 2001/02 in B&NES, 644 people over 65 years were hospitalised after a fall. The majority (75%) were women, almost half of whom were over the age of 85. 82% were in hospital for more than three days, although other factors not related the fall may be responsible for a long stay in hospital. These figures do not represent the full picture as not everyone who falls will end up being admitted to hospital.

The rate of falls increases with age, and is higher in women than in men (see graph 2). Women are at increased risk of fracture from falling because they are at increased risk of osteoporosis, a condition which results in more brittle bones. Almost half of all women experience an osteoporotic fracture by the time they reach the age of 70 years.



Source: IM&T Consortium. Based on resident PCT population.

Falls in the over 65's can result in serious injuries. Indeed the commonest reason for being admitted to hospital after a fall is with a fractured neck of femur which carries with it a significant risk to life. The majority of falls result from multiple contributing and interrelating factors, which include side effects of medication, remedial physical and mental conditions, in particular depression, cognitive impairment, history of arthritis, Parkinson's Disease, stroke in women, fall in the previous 2 years and other episodes of serious illness. The main types of injury resulting in hospitalisation are shown below (see table 1).

Main Diagnosis	Number	% of total
Fracture of neck of femur	131	20.3
Pertrochanteric fracture	29	4.5
Unspecified injury of head	22	3.4
Fractures of other parts of lower leg	19	3.0
Fracture of pubis	18	2.8
Urinary tract infection, site not specified	18	2.8
Fracture of lower end of radius	17	2.6
Subtrochanteric fracture	17	2.6
Unspecified injury of hip and thigh	16	2.5
Orthostatic hypotension	10	1.6
Total Top 10	297	46.1

Source: IM&T Consortium. Based on resident PCT population.

Table 1: Main diagnosis of those discharged from hospital with a falls diagnosis aged over 65 (2001/02).

References

National Service Framework for Older People
<http://www.doh.gov.uk/nsf/olderpeoplemaindoc.htm>

Ebrahim S, Kalache A (Eds). Epidemiology in Old Age. London: BMJ Publishing Group, 1996

Health Survey for England. The Health of Older People 2000
<http://193.32.28.83/public/summary1.htm>

4. Sexually Transmitted Disease

There are two main sources of local data on sexually transmitted diseases. The first is data from the genitourinary medicine (GUM) clinic at the Royal United Hospital, Bath. The second is from laboratory reports from specimens sent by several organisations providing sexual health services including GPs, hospitals, and clinics.

There are several problems with the data which impact on the ability to undertake surveillance. The main issue is that data is only collected on people who have attended a service. This means there will be many people who have an infection but who have not contacted any health services. This is especially a problem in diseases that do not cause symptoms in most people. In addition, data are not currently available at a PCT level.

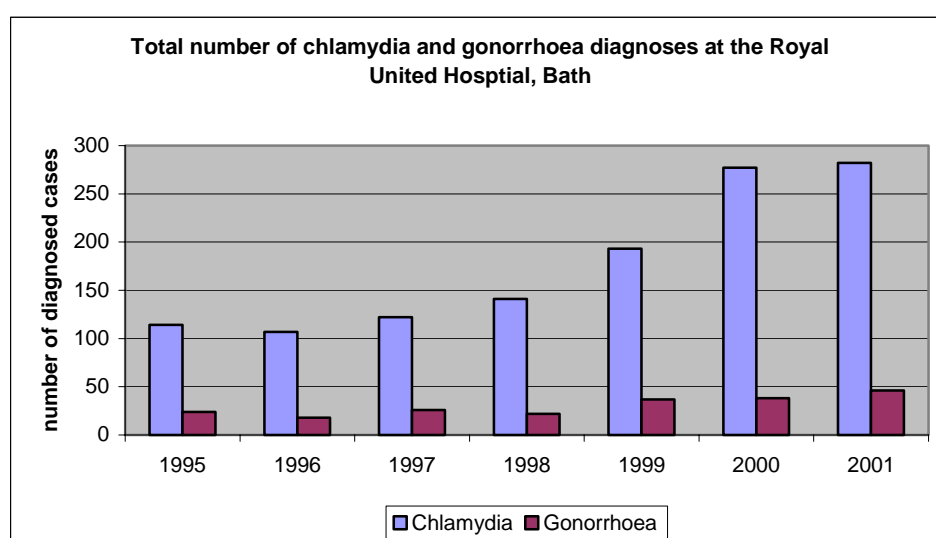
Despite the problems, both datasets provide a useful estimate of the number of new and existing conditions in the community, and of the number of people accessing sexual health services.

Chlamydia and Gonorrhoea

Chlamydia, a bacterial infection, is the most prevalent sexually transmitted disease in England and Wales. The highest rates are among 16-19 year old women and 20-24 year old men. Recent studies have estimated that between 9.8 and 11.2% of women are infected although most will have no symptoms. It is estimated that diagnosis at GUM clinics represent only 10% of cases. Chlamydia can lead to pelvic inflammatory disease which can in turn lead to chronic pelvic pain, infertility and ectopic pregnancy although this chain of events is by no means inevitable.

Gonorrhoea is the second most prevalent bacterial infection and is commonest among the same age groups as for chlamydia. In the UK, it is also commonest among men who have sex with men and certain black and other minority ethnic groups.

Since 1995, there have been large increases in the number of chlamydia and gonorrhoea infections diagnosed in the GUM clinic at the Royal United Hospital, Bath (see graph 1). The rise since 1995 has also been seen regionally and nationally.



Source:

KC60 data.

Note: Includes complicated & uncomplicated infections diagnosed at the Royal United Hospital, Bath.

The rise in gonorrhoea is thought to be reflective of changes in sexual behavior, particularly in young people and men who have sex with men. It is thought that a reduction in risky behavior in response to the HIV epidemic in 1985-1988 has not been sustained. The rise in chlamydia may be due to increased awareness of the disease leading to more people being tested.

Laboratory results indicate a higher rate of both infections in neighbouring PCTs compared to the South West region. This is likely to be due to a higher number of people being tested rather than a higher prevalence in the community.

Hepatitis B

Hepatitis B is a viral infection, transmitted through sexual intercourse or through contact with infected blood. Every year, there are about 20 cases in the former Avon area. However in 2002 there has been a rapid increase in the number of new infections. Between January and August 2002, there were an average of 5 new cases of acute hepatitis B every month, compared to 2 in 2001, and 1 in 2000. The outbreak was still present in October 2002 although largely confined to the Bristol area.

HIV

HIV (human immunodeficiency virus) is the virus that causes AIDS (acquired immune deficiency syndrome). There are approximately 25 newly diagnosed cases of HIV every year in the former Avon area but comparatively few live in B&NES. The number of newly diagnosed cases has remained approximately the same over the past five years. The number of people living with HIV has increased due to improved treatments and more people moving into the area who were already infected.

Sex	1996	1997	1998	1999	2000	2001
Male	26	17	19	23	13	21
Female	2	9	4	4	7	7
Total	28	26	23	27	20	28

Table 1: Number of newly diagnosed HIV infections in Avon

Source: SOPHID

References:

Department of Health. *Sexual health and HIV strategy: Chlamydia Screening Pilot: Report of 1999-2000 Study.*

<http://www.doh.gov.uk/sexualhealthandhiv/chlamydscreenpilot.htm>

Public Health Laboratory Service Communicable Disease Surveillance Centre South West. *Infectious Disease in the South West of England*

<http://www.swpho.org.uk/idreport.htm>

Public Health Laboratory Service. *Trends in sexually transmitted infections in the UK: New episodes seen at Genitourinary Medicine Clinics, 1995 - 2000*

http://www.phls.co.uk/topics_az/hiv_and_sti/publications/sti_report2001.pdf

5. Oral Health and Dental Services

Improving oral health

Oral health is the well-being of the oral cavity, the absence of disease and the optimal functioning of the mouth and its tissues, in a manner which preserves the highest level of self-esteem and interpersonal relationships. Retention of functional teeth and healthy supporting tissues is the foundation of this state, high quality replacement of lost teeth and tooth tissue being the second choice in maintaining adequate oral health and well-being.

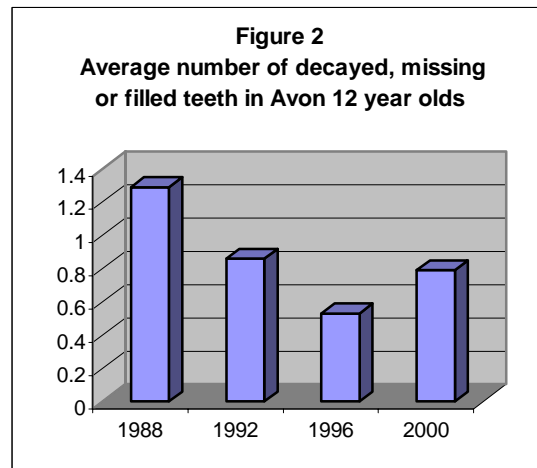
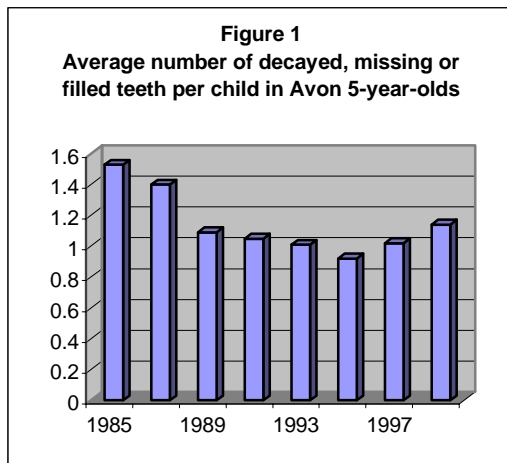
The need for dental treatment has changed, with most children and younger adults now requiring minimal treatment. Local and national surveys of the teeth of children and adults in England have shown a dramatic decline in the prevalence of dental decay. This has occurred through preventive measures, especially exposure to appropriate levels of fluoride mainly in toothpaste.

Middle aged and older people who have experienced dental disease in younger life have damaged teeth that often require continuing and complex treatment to save or replace them. The risk factors for dental disease are the frequency of intake of sugars, oral cleanliness and smoking. Smoking is also related to the incidence of oral cancer for which vitamins A and C may have some protective benefit. There are socio-economic differences in the exposure to these risk factors and there is no doubt that higher socio-economic groups have benefited preferentially from improvements in oral health and easy access to dental services.

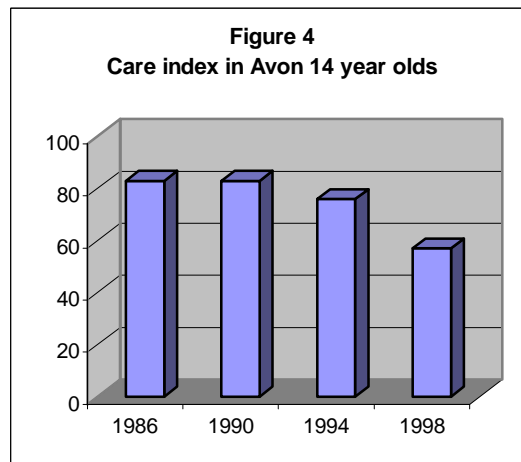
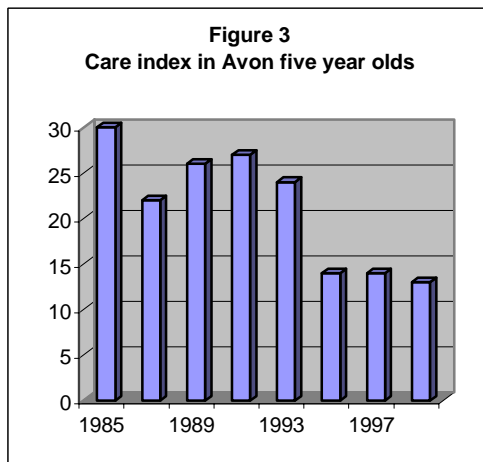
People living in areas of relative deprivation experience higher levels of dental decay and gum disease and have higher treatment needs. This inequality of dental disease experience is compounded by inequality of access to treatment services.

National dental surveys are conducted every ten years. The findings confirm most young adults have little need for dental treatment and few fillings but older people are retaining their teeth but often require treatment - the percentage of 55 – 64 year-olds who have lost all of their teeth declined progressively from 64% in 1968 to 20% in 1998. However, they each have an average of 12 filled or crowned teeth. For adults in this age group continuing dental care is important to preserve teeth for life. A healthy diet is often compromised by the lack of teeth or a painful mouth.

The decline in dental decay mainly occurred in the 1970s and 80s but the pattern now appears to be changing. Previous improvements in disease levels observed in local dental epidemiological studies in children have now ceased. See figures 1 and 2. It is anticipated that these changes will also be seen in the national child dental health survey to be conducted in 2003. Poor oral health is still a public health problem for all ages - the National Diet and Nutrition Survey of 2000 showed that 67% of 15 to 18 year-olds had experienced dental decayed but most of it had been treated.



Although there is much less decay than twenty years ago, a smaller proportion of disease in children is treated restoratively. The care index - a measure of the amount of decay that has been treated by filling teeth (ratio of teeth filled to teeth decayed) has decreased. Figures 3 and 4 show this reduction in recent years.



Access to dental treatment

Local and national surveys show that there is poorer oral health in areas of relative deprivation. They also show that there is relatively poor access to dental services and indeed, dental practices in other areas may have selective acceptance policies for new patients under NHS contract. In areas of relative deprivation, many people do not have private transport and public transport to a distant dental practice may be difficult or unavailable.

Whilst studies have shown that dental treatment services do not have much impact on the incidence of disease, they are necessary to relieve pain and restore oral health and function. Although there has been an increase in the number of dentists in the Avon area including B&NES, which already holds a favourable dentist: population ratio compared to other areas in England, access to NHS dental services has deteriorated in recent years. Of the 179 general dental practices on the NHS list in Avon, only approximately 30 accept all categories of new patient under NHS contract. Over £30 million is spent each year on NHS General Dental Services in Avon but the system, which is largely nationally funded and organised, is not working well. The mainly "fee for item of treatment" remains largely unchanged since the start

of the NHS in 1948. Although more dentists have entered the system, there is a failure to meet the need for treatment and dentists tend to set up practice where there is the highest demand rather than the need for treatment.

The future

Improving oral health

In the absence of fluoridating water supplies, an emphasis has been placed in fluoride toothpaste distribution in areas with the poorest oral health. This is particularly important in Sure Start projects one of which is beginning in the south of Bath. In the Community Dental Service, a small team has a particular role in oral health promotion, which is delivered on a multi-disciplinary basis. The aim is to include oral health in community-based initiatives and ensure that oral health is included in the basic and ongoing education of healthcare and other professionals. The main oral health promoting messages include, a reduction of sugar consumption as part of promoting good nutrition and a healthy diet, improving the availability of healthier choices such as the provision of sugar-free snacks, drinks and medicines and smoking cessation. Starting initially with pilot dental practices, the aim would be to ensure that all dental practices have smoking cessation policies.

A new national oral health strategy is anticipated. Action will be taken locally when this has been published.

Improving dental services

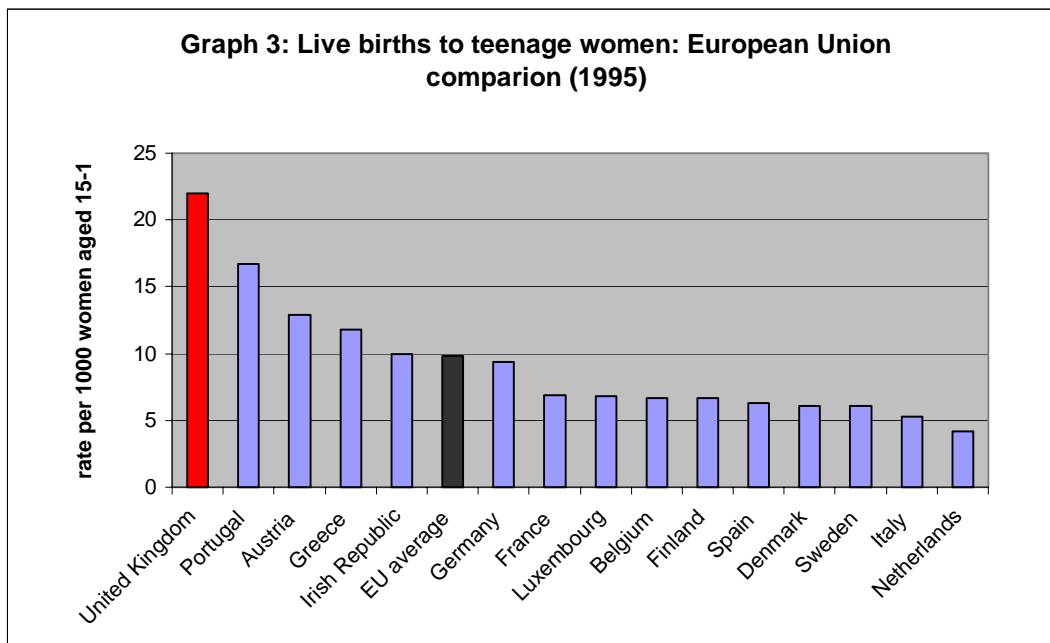
Proposals are currently with the Minister for Health examining "Options for Change". Options are likely to include a greater emphasis on local commissioning and improving the quality of treatment, the system of delivery and practice facilities. A workforce review, currently underway, will examine the numbers of dentists needed and the skill mix required. A new service should have improved information systems and be patient-focused and preventively oriented.

Primary Care Trusts will need to play their part to improve the quality of and access to the General Dental Service (GDS) within national guidelines and to review the service specifications for salaried dental services (Hospital, Community and Personal Dental Services) which complement GDS. A review of emergency dental services is currently being carried out. PCTs will be monitored on their achievement of agreed standards of access – that anyone phoning NHS Direct can access NHS dental services within 18 miles and within 24 hours for urgent dental conditions and 2 months for routine treatment.

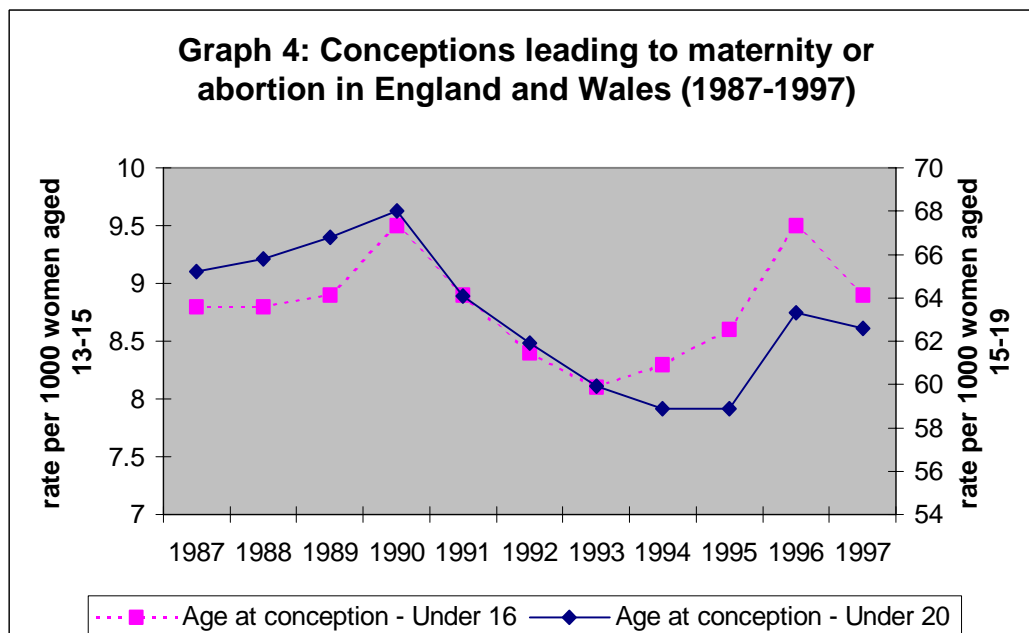
6. Teenage Conception

General Information

The United Kingdom has the highest rate of live births to teenage women in the European Union – in 1995 it was over twice the EU average (see graph 3). The UK conception rate reached a peak in 1990 and in 1996 there was a dramatic rise in conceptions in all ages, probably as the result of the 1995 pill scare (graph 4). In June 1999, the Social Exclusion Unit report on Teenage Pregnancy set a target of halving the rate of conception amongst under 18 year olds in England by 2010.



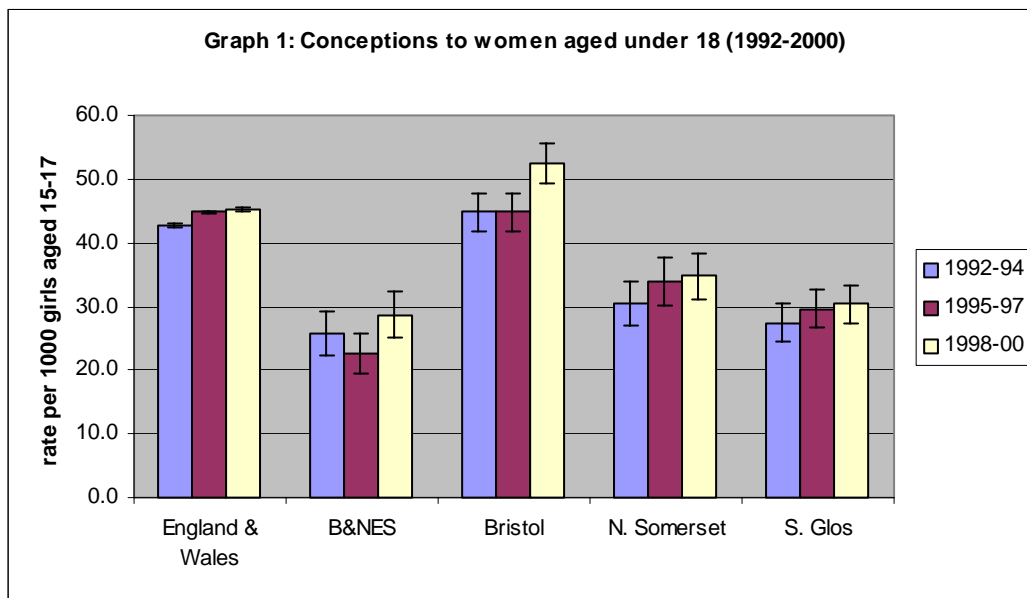
Source: ONS



Teenage Conceptions in B&NES

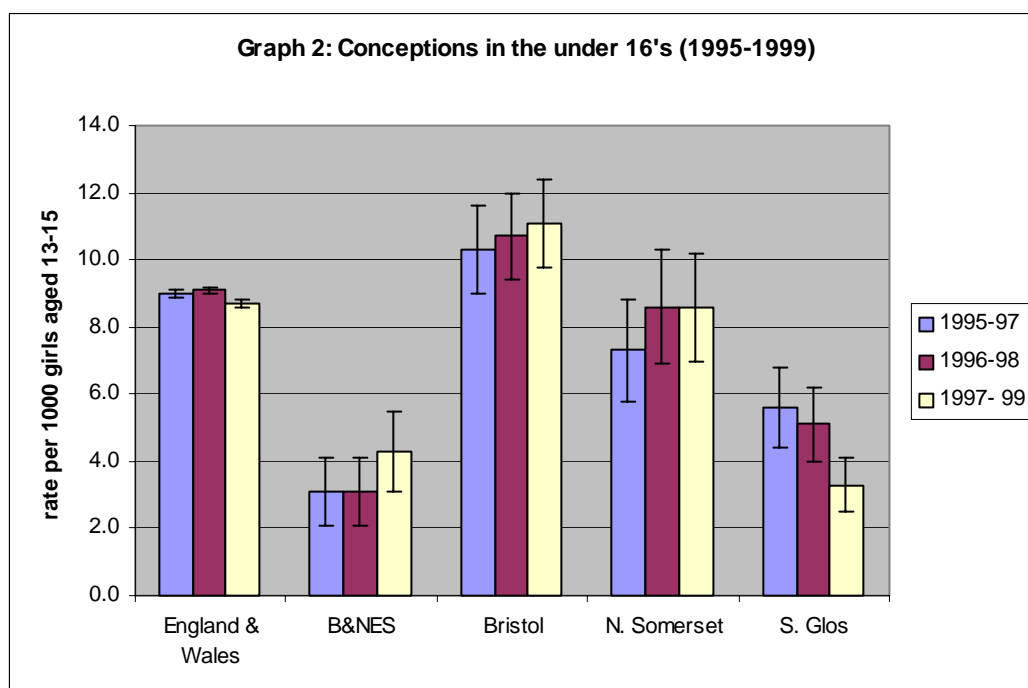
In the last few years there have been on average in B&NES around 79 conceptions in women under the age of 18, a rate of 28.7 per 1000 girls aged 15-17 (1998-2000). 16% of these are in women under the age of 16, a rate of 4.3 per 1000 girls aged 13-15 (1997-1999). Approximately half of all conceptions in women under 18 years result in the birth of a child.

The B&NES conception rate for the under 18's has fluctuated since 1992-94, but has remained significantly lower than the England and Wales rate (see graph 1).



Source: ONS

The conception rate for the under 16's has increased since 1995-97, but has also remained significantly below the average for England and Wales (graph2).



References

1. Social Exclusion report on Teenage Pregnancy, June 1999
http://www.cabinet-office.gov.uk/seu/publications/reports/pdfs/teen_preg.pdf

Teenage Pregnancy Unit <http://www.teenagepregnancyunit.gov.uk/>

Section 2

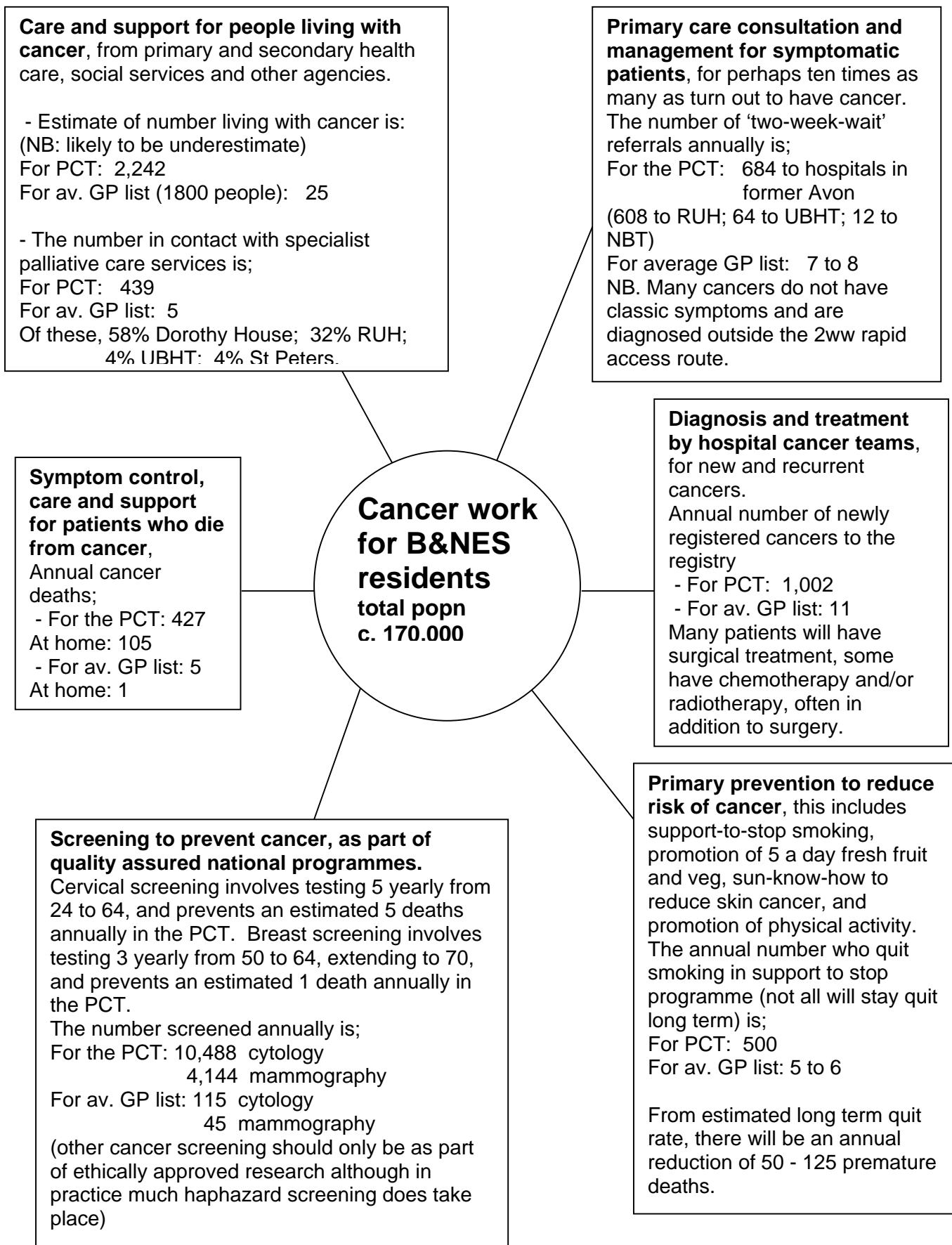
Improving Health and Health Services

This section looks at four key areas where public health improvement is dependant on specific and targeted effort by health and other services:

- Cancer and cancer care
- Helping women give up smoking during pregnancy
- Helping people across the board and those less well off to give up smoking
- Heart disease and access to important treatments across the community

1. Cancer Care in Bath and North East Somerset

This diagram represents the complete overview of cancer care in B&NES:



A comprehensive report on the burden of cancer and the services in place to support patients and their carers in Bath and North East Somerset is available through the Avon public health network ([http://www.avonphn.org.uk](#)). A summary of the key points is set out below:

- Residents of Bath and North East Somerset have similar rates of cancer incidence and mortality to the rest of the south-west region. Mortality rates from cancer are significantly lower than for England and Wales.
- For most cancers the trend in age-specific survival is improving. The same is happening nationally. Despite this the number of people with cancer in B&NES will remain stable because the elderly population is increasing slightly.
- Each year in B&NES there are around 1002 new diagnoses of cancer. Breast, lung and colorectal (bowel) cancer account for almost 40% of all cases.
- The most important preventive measures are reducing cigarette smoking, more people eating more fresh fruit and vegetables, and more people being physically active throughout life with less obesity. Work on all three approaches is taking place in B&NES. The Support to Stop programme successfully supported 500 B&NES residents who quit smoking during April 2001 – March 2002. Using conservative and optimistic estimates of the likely number of people who will be without tobacco long term, 50 – 125 premature deaths will be prevented throughout their lifetime.
- Approximately 427 deaths each year are related to cancer, and roughly half these deaths occur before age 75, with half in people 75 and over.
- The Royal United Hospital (RUH), Bath is the major provider of hospital care for B&NES residents with cancer. Important services are also received from Southmead Hospital and from hospitals within the United Bristol Healthcare Trust including the Bristol Haematology and Oncology Centre.
- The RUH and Dorothy House are both important providers of specialist palliative care for B&NES residents. The number of patients dying of cancer who were supported to die at home was 105 in 2000. It is hoped that recent improvements in home support services may enable this number to increase.
- Breast and cervical screening programmes for B&NES women perform some 4,000 mammograms each year and 10,000 cytology tests. Uptake for both programmes meets the national targets. Were it not for the screening programmes there would be on average an additional six cancer deaths each year in B&NES resident women.

Giving up Tobacco

Introduction

In this section, we present data from the pregnancy database and the smoking cessation service. Smoking is recognised as a major threat to the long term health of the public and is a leading cause of cancer, heart and lung disease in adults. Passive smoking may also lead to ill health in children and others who are exposed, (Ferrence & Ashley 2000) while smoking during pregnancy has been associated with low birth weight, and other complications for both mother and baby. (Conter et al. 1995; Owen, McNeill, & Callum 1998) Effects start in utero, resulting in increased perinatal mortality and morbidity and the sudden infant death syndrome. There is also evidence of health problems later in life. (Montgomery & Ekblom 2002; Rantakallio, Laara, & Koironen 1995)

According to the Health Survey for England (ONS, 1998), smoking rates vary according to age and social class. The highest rates being among people from social class V and among young people. Among women who were smoking before their pregnancy, rates of stopping averaged 10% immediately before pregnancy and 18% during pregnancy. (Owen, McNeill, & Callum 1998)

This analysis uses data collected from 1998 to 2001 by maternity services across the former Avon area and data collected from October 1999 to June 2002 for the smoking cessation services ('Support to Stop') in the Avon area. Age and sex were coded for both databases, but social class data was not available from either the pregnancy database or Support to Stop. As an alternative, ecological data identifying deprivation quintiles was used to identify those localities that have the highest levels of health need. The most disadvantaged localities are in deprivation quintile 5. Census data shows that people from social classes IV and V make up 22% of the population of deprivation quintile 5, compared to 10% of quintile 1. Quintiles are defined both across the Avon area and within each of the PCTs.

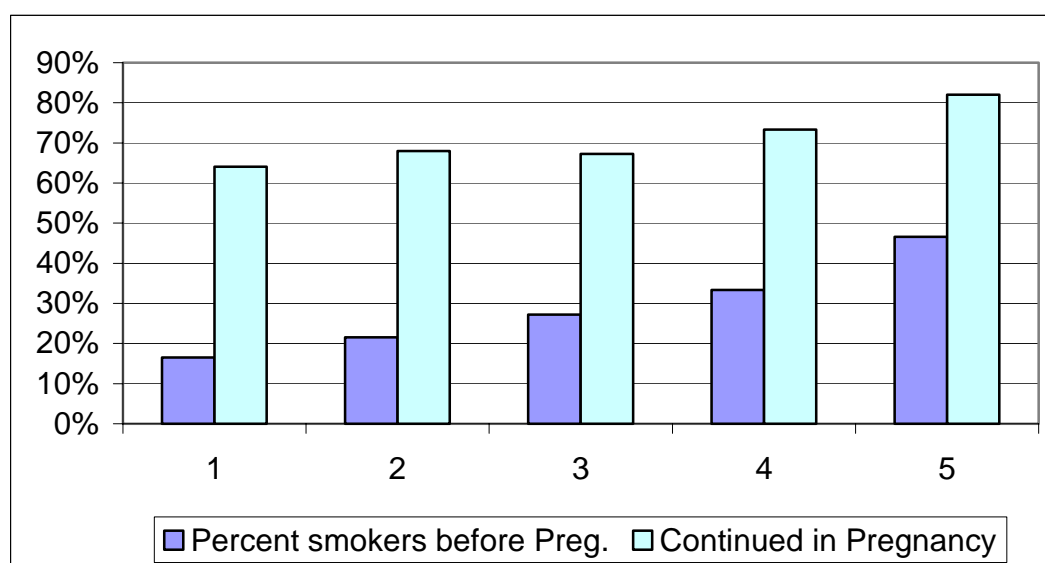
2. Smoking and Pregnancy

Women are advised by health professionals of the risks of smoking during pregnancy. Their smoking status and their level of smoking, if any, are recorded on the pregnancy record at the time of booking.

The overall smoking rate for the former Avon area, prior to pregnancy, was 29.1%. Highest rates of smoking prior to pregnancy were in Bristol, with 35.5% of women from Bristol South and West PCT and 32.2% of Bristol North PCT areas being smokers. Bristol South and West women were most likely to continue to smoke during pregnancy. 78.8% of smokers continuing in Bristol South and West, compared to an average of 73.9%.

As expected, when analysed by deprivation group, smoking was highest among women from the areas of highest health need. Figure 1 shows that both pre-pregnancy rates and those for continued smoking showed a deprivation quintile gradient. Pre pregnancy rates among women in deprivation quintile 5 (46.6%) were close to three times those of deprivation quintile 1 (16.5%).

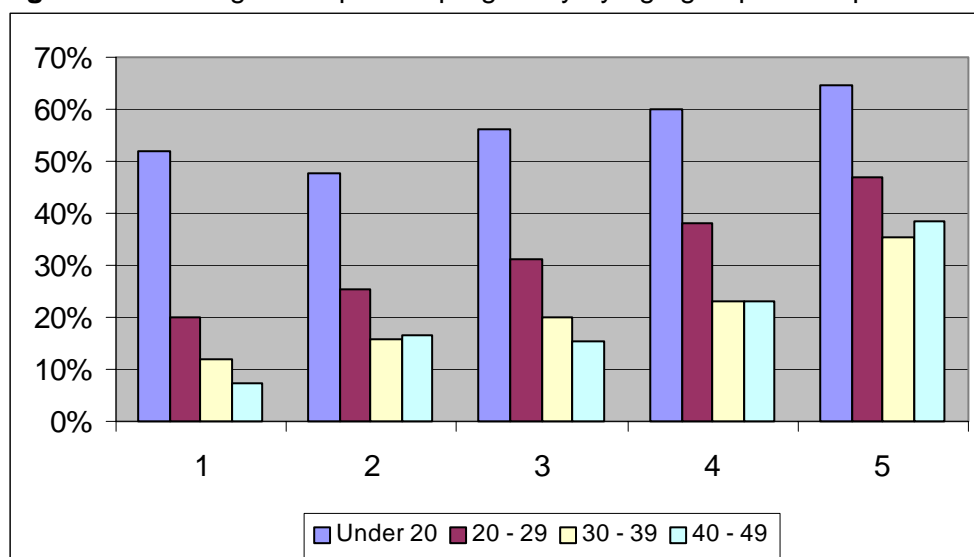
Figure 1: Smoking before and during pregnancy by deprivation quintile



Younger women were more likely to be smokers before pregnancy. More than 60% of women who became pregnant before the age of 20 were smokers, compared to fewer than 20% of over 30s.

High rates of smoking among young women were evident in all deprivation quintiles. Figure 2 shows pre-pregnancy rates of smoking for age groups in each of the 5 deprivation quintiles.

Figure 2: Smoking Rates prior to pregnancy by age group and deprivation quintile.

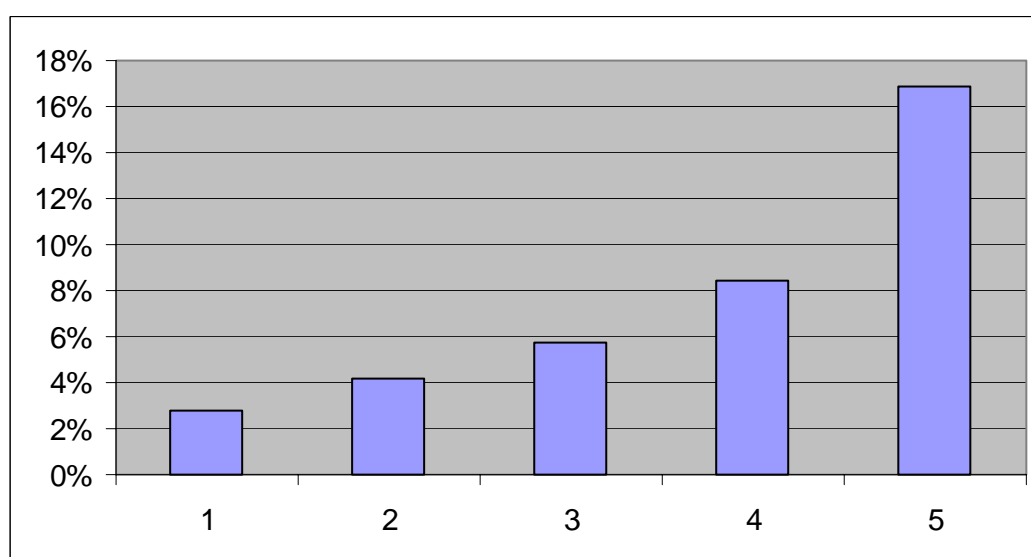


Smoking rates among teenagers who become pregnant are dramatically higher regardless of deprivation quintile. Overall, the rate is 60%, with this rate crucially influenced by the high numbers of teenagers in quintile 4 and 5 (the most disadvantaged areas) where rates are in excess of 60%.

77% of teenagers who smoked at the start of pregnancy continued to do so while pregnant. This figure was lower in Quintile 1 (the least disadvantaged) at 64% and highest in Quintile 5 (82%). However, teenagers were less likely to continue smoking than women who became pregnant over the age of 40 (80.4%).

More than half of all teenagers (51.2%) who became pregnant lived in areas in deprivation quintile 5. This represented 16.8% of all pregnancies in that quintile, more than 5 times the percentage for quintile 1. Figure 3 shows the percentage of teenage pregnancies by deprivation quintile.

Figure 3: Percent of all births to teenagers by deprivation quintile.



3. Smoking Cessation

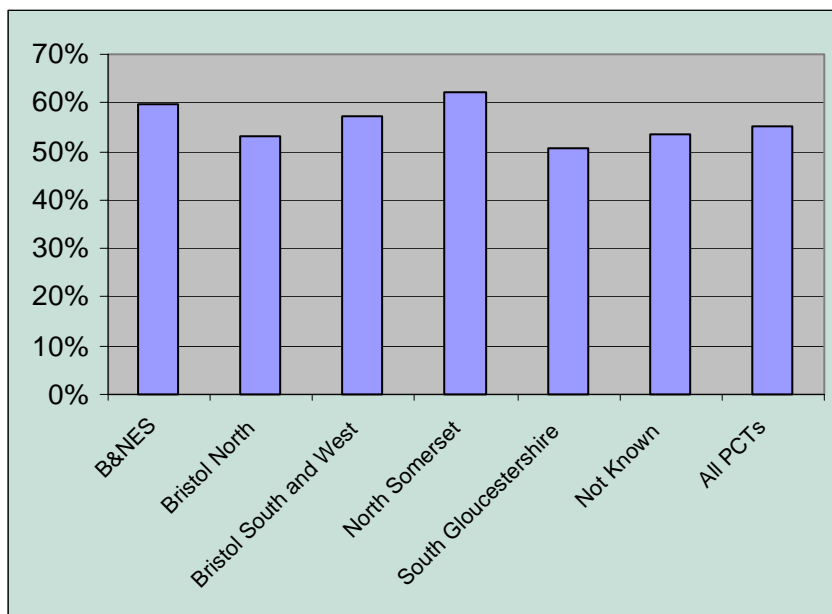
The smoking cessation service provides support for people who wish to stop smoking, including access to vouchers for nicotine replacement therapy (NRT) or smoking cessation drugs (Zyban) where appropriate. Participants set “quit dates” and are supported in to achieve their desire to stop smoking. Four weeks after their quit date, they are asked if they have smoked during that period.

Older people were more likely to participate, despite the higher proportion of smokers in younger age groups. According to the Health Survey for England, 41% of young men (16-24) and 38% of young women smoke, but these were the people least likely to participate in Support to Stop.

Men were less likely to participate than women, again despite higher overall rates of smoking.

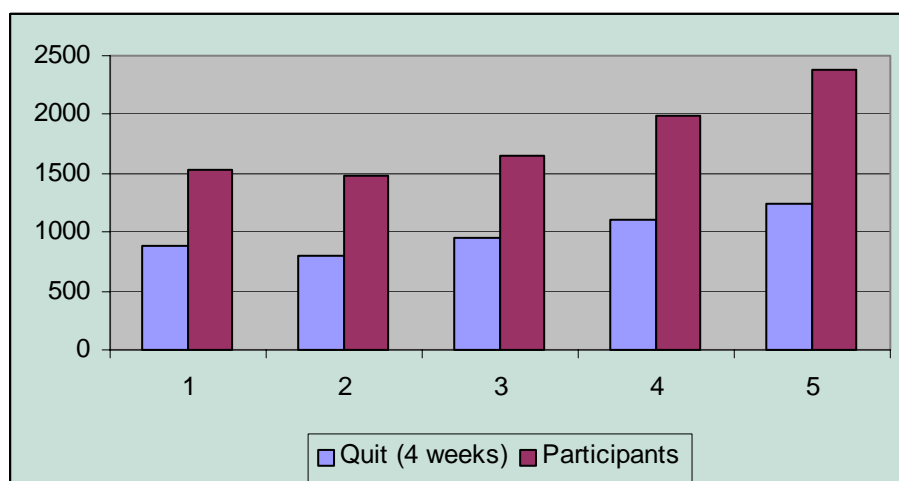
All PCTs are included in the Support to Stop database, but participation is not equal across PCTs. Bristol North and South Gloucestershire included more smokers in the programme, but the highest four-week quit rates were in North Somerset and B&NES, where there were fewest participants. Figure 4 shows the quit rates for each of the PCTs.

Figure 4: Percent of Support to Stop participants who had not smoked at four week quit date.



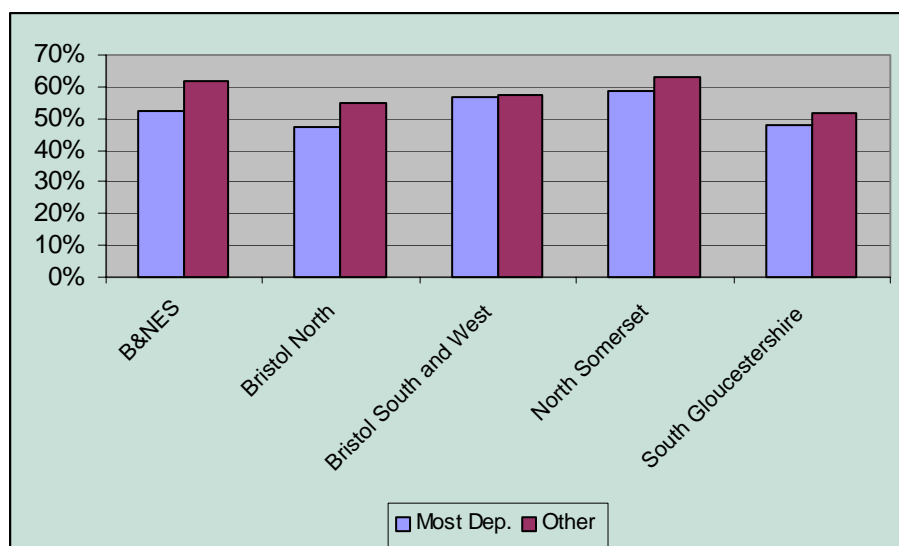
There is a higher percentage of smokers among people living in quintile 5 areas, which are defined as more deprived. The Support to Stop database includes more people from deprivation quintile 5 areas than other areas. Figure 5 show that numerically more people participate and succeed in quitting at the four-week point in quintile 5.

Figure 5: Support to Stop participants and quitters at four weeks by deprivation quintile



Overall, quit rates were significantly lower among those setting quit dates in areas of higher deprivation, however this was accounted for by only two of the PCTs, B&NES and Bristol North. In the other PCTs, there was no significant difference in quit rates. Figure 6 shows the quit rate at four weeks for the highest deprivation quintile for each PCT area and that for all other quintiles combined.

Figure 6: Four week quit rates for deprivation quintile 5 and all other quintiles by PCT area.



Implications

Several implications from these data deserve to be pursued:

- The staggeringly high rates of smoking among pregnant teenagers, far higher than Health Survey for England estimate and persisting across all social groups indicate the need to develop effective interventions targeted at young people that help them to quit during and after pregnancy.
- At the same time, the poor take up of Support to Stop among young people is also a cause for concern that should be addressed by the programme.
- Support to Stop has achieved impressive quit rates across the board, but in some parts of the area more intensive support may be needed in neighbourhoods with high levels of deprivation.

References

- Conter, V., Cortinovis, I., Rogari, P., & Riva, L. 1995, "Weight growth in infants born to mothers who smoked during pregnancy", *BMJ*, vol. 310, no. 6982, pp. 768-771.
- Ferrence, R. & Ashley, M. J. 2000, "Protecting children from passive smoking", *BMJ*, vol. 321, no. 7257, pp. 310-311.
- Montgomery, S. M. & Ekbom, A. 2002, "Smoking during pregnancy and diabetes mellitus in a British longitudinal birth cohort", *BMJ*, vol. 324, no. 7328, pp. 26-27.
- Office for National Statistics, 1998 "Statistical Bulletin" 1998/25, Office for National Statistics, London
- Owen, L., McNeill, A., & Callum, C. 1998, "Trends in smoking during pregnancy in England, 1992-7: quota sampling surveys", *BMJ*, vol. 317, no. 7160, pp. 728-730.
- Rantakallio, P., Laara, E., & Koironen, M. 1995, "A 28 year follow up of mortality among women who smoked during pregnancy", *BMJ*, vol. 311, no. 7003, pp. 477-480.

4. Access to Revascularisation For Ischaemic Heart Disease In Relation To Need

This audit was recently undertaken to examine patterns of revascularisation – invasive techniques for improving the blood supply to the hearts of patients whose coronary arteries have ceased to function well – in the Bath and North East Somerset population. The two procedures in question are coronary artery bypass grafting (CABG), whereby a new blood vessel is implanted in the heart and takes over the work of the damaged artery and angioplasty, when the damaged artery is stretched in order to increase the size of the channel through which blood can flow. Both procedures are important treatments for people who are at high risk of suffering a heart attack and who have usually experienced a heart attack in the past.

The investigation looks at whether people most in need of these interventions are receiving them.

The following data items were employed during the course of the analysis:

- NHS inpatient admissions involving CABG and angioplasty procedures from 1999/00 to 2001/02.
- NHS inpatient admissions with a diagnosis of acute myocardial infarction (AMI - heart attack) from 1999/00 to 2001/02.
- NHS inpatient admissions with a principal diagnosis of ischaemic heart disease excluding acute myocardial infarction from 1999/00 to 2001/02.
- Deaths from Ischaemic heart disease from 1996 to 2000.

Deaths from ischaemic heart disease were taken to be an indicator of 'need' within the population for CABG and angioplasty procedures. Acute myocardial infarction and 'other' ischaemic heart disease admissions were considered to be 'intermediate' indicators, reflecting both levels of need within the population and access to hospital inpatient services.

Table 1 shows the numbers of events occurring in the Bath and North East Somerset population over the time periods specified. The numbers in parentheses represent the number of annual events in each case. As can be seen, all events are more common for males than for females.

In order to examine whether these differences reflect inequities in CABG and angioplasty provision between males and females, it is necessary to look at the relationship between 'need' and 'supply' for each gender.

.Table 1. **Numbers of Events.**

	Male	Female
IHD Deaths	1000 (200)	837 (167)
AMI Admissions	425 (142)	247 (82)
Other IHD Admissions	1087 (362)	651 (217)
CABG & Angioplasty Procedures	200 (67)	65 (22)

Table 2 shows supply/need ratios by gender for the Bath and North East Somerset population. All figures are age standardised so age difference effects between the genders and individual indicators have been neutralised

Table 2; **Event Ratios by Gender.**

	Males	Females	Ratio M:F x 100%
AMI Admissions per 100 IHD deaths	78.6	63.4	124.0
Other IHD Admissions per 100 IHD deaths	217.1	210.9	102.9
CABG & Ang. procedures per 100 IHD deaths	41.6	25.5	163.1
CABG & Ang. procedures per 100 AMI admissions	52.9	40.2	131.6
CABG & Ang. procedures per 100 other IHD admissions	19.1	12.1	157.9

The first two ratios represent the numbers of admissions for acute myocardial infarction and other ischaemic heart disease per 100 deaths from ischaemic heart disease. In both cases the ratios are higher for males than for females, indicating that males have more inpatient admissions for heart attacks and heart disease per CHD death than females.

Similarly, when relating CABG and Angioplasty procedures to 'need', males receive a higher number of procedures per IHD death or heart disease hospital admission than females.

The male/female ratios in the third column of table 2 reveal that with the exception of 'other' ischaemic heart disease admissions (more likely, a measure of chronic heart disease), males benefit from considerably more provision of health care than their female counterparts given their relative levels of need.

Table 3 shows rates per 100,000 persons per year for each indicator across three age groups for the Bath and North East Somerset population. IHD death rates increase rapidly with age, the rate for the 75+ age group being over 20 times that of the 45-64 rate. AMI admission rates also show a considerable, though less spectacular, increase with advancing age. In contrast, both other IHD admissions and CABG/angioplasty procedure rates are both highest in the intermediate 65-74 year age group. Similar patterns were observed for both males and females, and so their figures are not presented separately here.

Table 3. Event Rates by Age.

	45-64	65-74	75+
IHD Deaths	80.7	458.3	1667.1
AMI Admissions	130.3	367.2	669.6
Other IHD Admissions	490.7	1325.0	982.1
CABG & Angioplasty procedures	94.1	253.4	44.6

Again it is appropriate to examine event ratios by age in order to highlight differences in need and supply across these groups, the figures are presented in Table 4.

Relative to the number of IHD deaths, both AMI admissions and other IHD admissions fall drastically with increasing age. Some of this difference may be explained by changing outcomes following heart attacks or detection of heart disease for different age groups, e.g. such problems being more likely to result in death for the older age groups.

Again relative to the selected need indicators the provision of CABG and Angioplasty procedures shows a drastic decline with increasing age. There is a huge reduction in both the number of procedures performed per IHD death and the numbers of procedures performed per admission for the oldest age group. This may be in part due to a perceived reduction of benefit in performing these procedures on older patients.

Table 4; **Event Ratios by Age.**

	45-64	65-74	75+
AMI Admissions per 100 IHD deaths	161.6	80.1	40.2
Other IHD Admissions per 100 IHD deaths	608.4	289.1	58.9
CABG & Ang. procedures per 100 IHD deaths	116.7	55.3	2.7
CABG & Ang. procedures per 100 AMI admissions	72.2	69.0	6.7
CABG & Ang. procedures per 100 other IHD admissions	19.2	19.1	4.5

In order to examine the relationship between deprivation and access to CABG and Angioplasty procedures, a deprivation quintile approach was employed. This involved calculating Townsend Scores (a measure used several times in this Health Report to represent deprivation in the population) using 1991 Census data for the 358 enumeration districts which make up Bath and North East Somerset's catchment area. The 358 enumeration district Townsend Scores are then ranked in order of deprivation, and split into five equal deprivation groups or quintiles. Using this approach it is possible to analyse the impact of deprivation on access to services regardless of geographical location.

Table 5 shows age standardised rates per 100,000 persons per year for each indicator for the most affluent and most deprived Townsend Score quintiles for the Bath and North East Somerset population.

Table 5. **Event Rates by Deprivation.**

	Deprivation Quintile 1 (Affluent)	Deprivation Quintile 5 (Deprived)
IHD Deaths	99.7	128.0
AMI Admissions	81.2	117.0
Other IHD Admissions	225.4	432.6
CABG & Angioplasty procedures	43.4	52.1

For all of the above indicators the rates for the most deprived population quintile are considerably higher than the rates for the most affluent quintile. Thus the most deprived quintile has higher death rates, higher admission rates, and higher CABG and Angioplasty procedure rates.

Once again, it is instructive to examine event ratios for the most affluent and deprived deprivation quintiles in order to assess the differences in the relationship between need and supply which may exist across these groups, the figures are presented in Table 6.

Table 6; **Event Ratios by Deprivation.**

	DQ1 (Affluent)	DQ5 (Deprived)	Ratio DQ1:DQ5 x 100%
AMI Admissions per 100 IHD deaths	81.4	91.4	89.1
Other IHD Admissions per 100 IHD deaths	226.1	338.0	66.9
CABG & Ang. procedures per 100 IHD deaths	43.5	40.7	106.9
CABG & Ang. procedures per 100 AMI admissions	53.4	44.5	120.0
CABG & Ang. procedures per 100 other IHD admissions	19.3	12.0	160.8

From the first two rows of Table 6 it is evident that the most deprived quintile population has a higher rate of inpatient admissions (for both AMI and other IHD) per CHD death than their counterparts in the most affluent quintile.

In contrast, where CABG and Angioplasty procedures are concerned, it is the most affluent quintile which has the greater number of procedures per death and hospital admission. Assuming that deaths and hospital admissions are valid proxy indicators of need for these two treatments, it is apparent that members of the most affluent deprivation quintile receive considerably more procedures relative to need than their counterparts in the most deprived quintile.

In conclusion, it would appear that inequities in access to CABG and Angioplasty procedures relative to need do exist across gender, age and level of deprivation within the Bath and North East Somerset population. It is not clear why this should be.

Section 3 Protecting Health and Screening for Disease in the Population

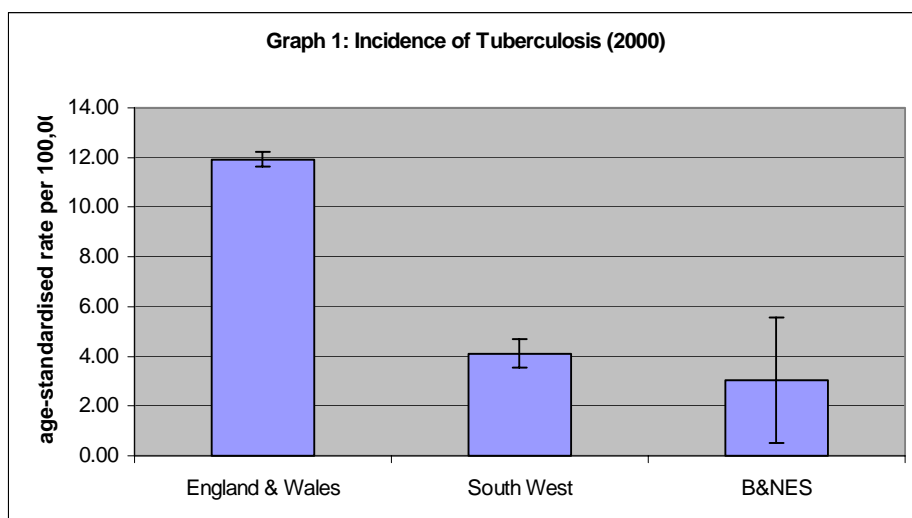
1. Selected Communicable Diseases

Tuberculosis

With the exception of the period during the two world wars, tuberculosis has been in decline over the last century in England and Wales. However, since the early 1990's, there has been a small increase the number of tuberculosis notifications nationally and in other parts of the developed world.

In the South West region in 1998-99, a high proportion of cases (32%) occurred in those over 70's age group. Although the largest numbers occur in the white ethnic group (73%), rates are highest in the Black African and South Asian ethnic groups, and an increasing proportion are in people born outside the UK. Two thirds of foreign born cases originated from India, Pakistan and Bangladesh and Somalia, and more than half (57%) have entered the UK since 1990.

Between 1999 and 2001, there was on average of one death a year from Tuberculosis in B&NES. There were 6 notifications of TB in B&NES in 2000, an incidence rate similar to the South West region and significantly lower than the England and Wales rate.



Source: Compendium of Clinical Indicators, 2001

Meningitis

Meningitis is the inflammation of the lining of the brain and is caused by a several bacteria and viruses. It is a serious cause of illness and is life threatening in children and adults, with the highest numbers occurring in the 5's. Teenagers between the age of 15 and 19 are the second highest risk group.

Although bacterial infections are less common than viral, they are more serious. Over half the bacterial meningitis cases are caused *Neisseria meningitidis*. There are two main types of *Neisseria meningitidis*, type C and type B. In November 1999, a vaccine was introduced which is effective against type C, recommended for everyone up to the age of 18. There is still no vaccine for type B which is currently responsible for the majority of meningococcal infections in the UK.

In 2000, there were 4 notifications of meningococcal meningitis in B&NES. Between 1999-2001, there were no outbreaks of meningitis in the former Avon area. The number of laboratory confirmed cases of *Neisseria meningitidis* has remained fairly constant, and the rate has been below that of the South West region (see table 2).

Organism	Year	Number		Rate per 100,000	
		Avon	South West	Avon	South West
<i>Neisseria meningitidis</i>	1999	19	164	1.5	3.3
	2000	22	179	1.7	3.5
	2001	15	165	1.1	3.3

References & further information:

Public Health Laboratory Service Communicable Disease Surveillance Centre. Tuberculosis Update September 2001.

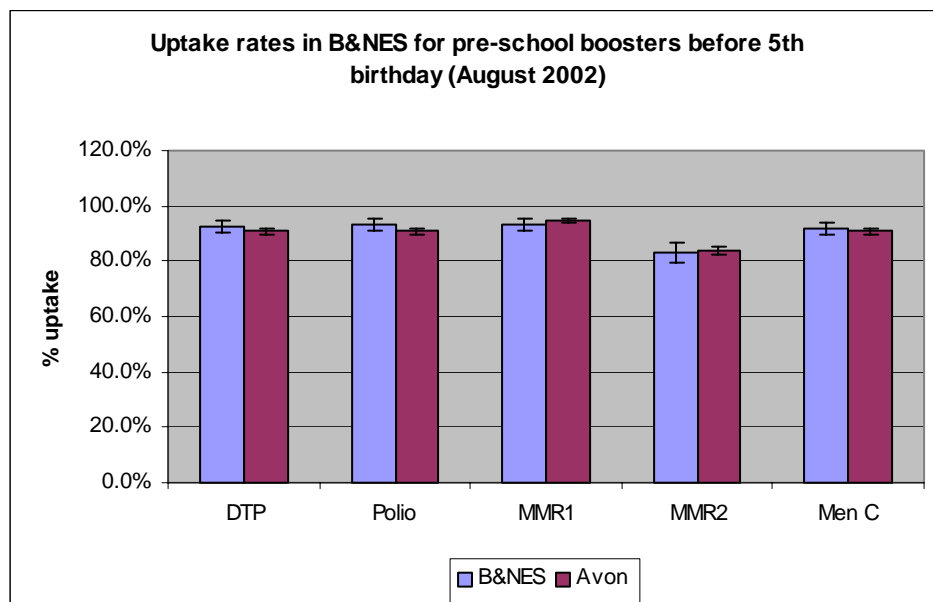
http://www.phls.co.uk/topics_az/tb/pdf/newsletter_september_2001.pdf

Public Health Laboratory Service Communicable Disease Surveillance Centre South West. *Infectious Disease in the South West of England*

<http://www.swpho.org.uk/idreport.htm>

2. Immunisation

Immunisation rates in Bath and North East Somerset for children aged up to five years of age are high, with uptake rates of over 90% of for most vaccines. The exception to this is the second Measles, Mumps and Rubella vaccine (MMR2), the uptake of which is significantly lower than the other vaccines (see graph 1 below).



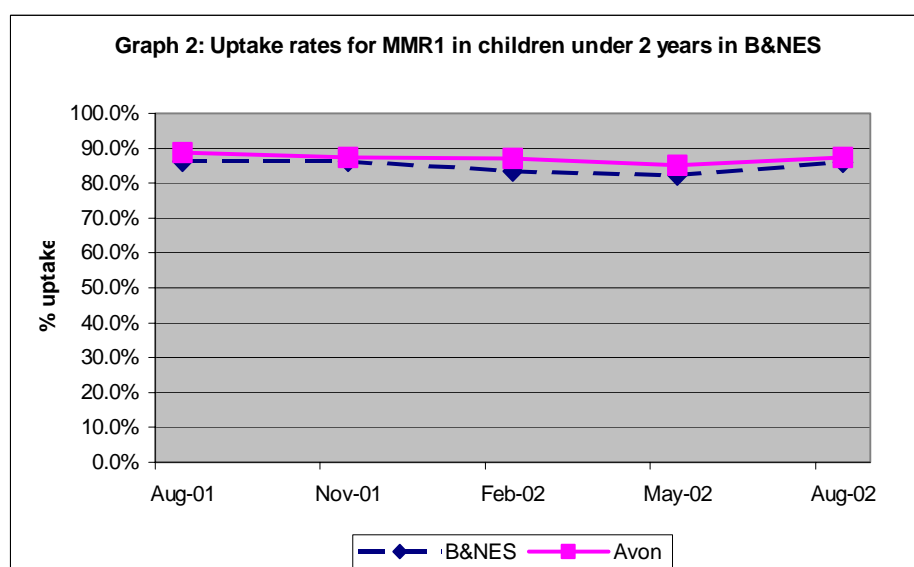
Source: Child Health Surveillance

DTP = diphtheria, tetanus, pertussis
 MMR = measles, mumps and rubella
 MenC = meningitis C

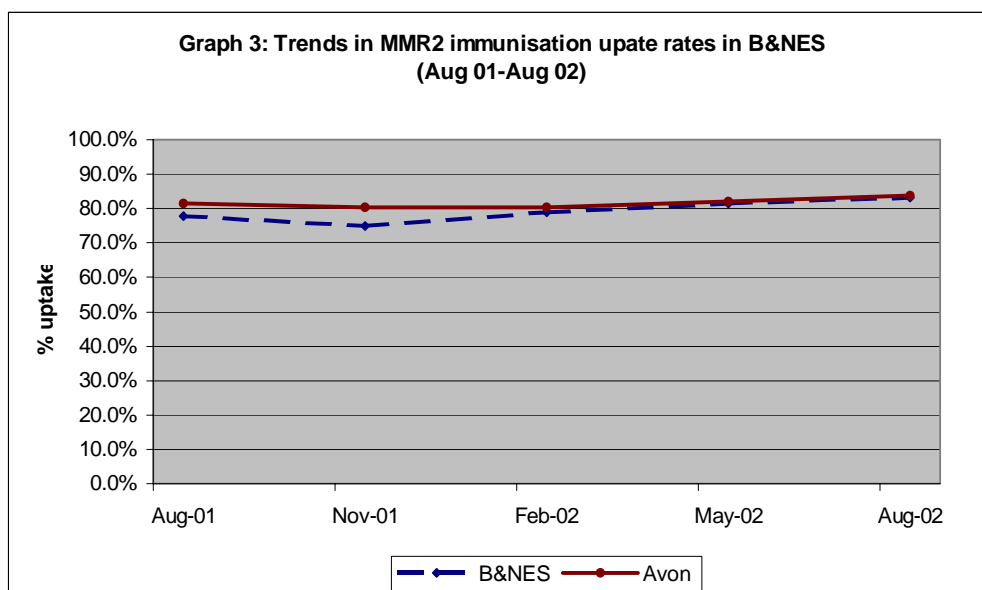
Whilst there are variations in the uptake rate of primary immunisation in childcare across the practices in PCTs, this has been overshadowed by the dramatic fall in uptake of MMR following recent adverse publicity related to the safety of the vaccine.

The MMR vaccine is given twice, once at 13 months and again before children go to school. At the age two, all children should have received the first MMR vaccine (MMR1).

In B&NES, uptake rates for the MMR1 in children aged two years was 85% in 2001/02. This is much lower than the uptake of other vaccines given at the same time such as polio, diphtheria, tetanus, and pertussis, which were over 96%. The England rate for the uptake of the MMR1 vaccine was 84% in 2001/02. The uptake rate has not changed much over the last year, and has remained below the Avon average (see graph 2).



By the age of 5 years, 93% of children had had the MMR1 vaccine in 2001/02, however the uptake rate for the second MMR vaccine (MMR2) given just before school was particularly low, with only 79% of children vaccinated. The England rate for the uptake for the second MMR vaccine was 74% in 2001/02. Over the last year the uptake rate has improved (see graph 3).



Source: Child Health Surveillance

Advice from the Chief Medical Officers in the UK is clear that there is no link between the MMR vaccine and autism or bowel disease, but adverse publicity continues to affect MMR rates. This will have implications in terms of levels of circulating virus in the community and will undoubtedly lead to outbreaks of measles, mump and rubella. These diseases have can have serious complications and lead to disability and even death.

Complications following a measles infection include breathing difficulties, ear infections, pneumonia, eye infections and inflammation of the brain. Mumps can result in swelling of the ovaries and testes, meningitis and deafness. Rubella is a particular risk for pregnant women, particularly early in pregnancy. Infection can result in foetal defects leading to learning difficulties, cataract, deafness and cardiac abnormalities, with up to 90% of babies being affected if the mother is infected in the first 11 weeks of pregnancy.

References & Further Information

MMR The Facts: <http://www.mmrthefacts.nhs.uk/>

Public Health Laboratory Service <http://www.phls.co.uk/default.htm>

NHS Immunisation Statistics, England: 2001-02 <http://www.doh.gov.uk/public/sb0218.htm>

3. The Major Population Screening Programmes

Breast Cancer Screening

Women in B&NES are offered three yearly screening by mammography as part of the national NHS Breast Screening Programme. The service is provided by the Avon Breast Screening Unit, whose performance meets or exceeds all the national standards for breast screening. Women are screened either by attending the fixed site at Central Health Clinic, Tower Hill, or by attending a mobile screening unit that visits different locations in the patch. For B&NES the sites visited are the Princess Anne Wing at the Royal United Hospital, and Paulton Hospital. In each location the local hospital provides space and access to essential services.

The workload for B&NES is summarised in table 1 below.

Number of eligible resident women age 50 to 64	17,673
Number invited each year	5,318
Population coverage (percentage screened in last 3 years) as at April 2001	74.9%
Number attending each year (estimate from total)	4,144
Number needing further assessment each year (estimate from total)	210
Number of screen detected breast cancers each year (estimate from total)	22

Table 1. Breast screening coverage rate and approximate annual activity numbers for B&NES PCT.

Note: the 'coverage' underestimates the real uptake among women due for screening as women who have moved away, or who have been screened in the private sector can distort the figures.

The uptake for breast screening varies from general practice to general practice. This probably reflects the different populations in terms of ethnic and social class mix, rather than any specific influence of the practice staff. Each practice receives detailed figures relating to screening for the practice population. A summary of these data for all practices in the PCT is currently being prepared by staff at the breast screening unit.

The NHS Breast Screening Programme will be expanding to accommodate routine invitations for women up to and including age 70. This will increase the eligible B&NES population to 20,554 and will require an increase in facilities and funding.

Not all women who have screen detected cancer will have their lives prolonged as a result. The window of opportunity, where screening can make a difference, is only small. This is because many screen detected cancers have a very good prognosis, and these women would have done well even if their cancer was left to be detected as a result of symptoms. Also, some screen detected cancers have a poor prognosis and do badly despite being picked up on screening. The Office for National Statistics

estimates that one third of the recent 21% fall in breast cancer deaths in women aged 55 to 69 in England and Wales is directly attributable to routine mammographic screening. This saving of life (300 per year for the whole programme) equates to approximately one woman per year in B&NES having her life prolonged as a direct result of mammographic screening.

Cervical Cancer Screening

Women in B&NES are offered five yearly screening by cervical cytology as part of the national NHS Cervical Screening Programme. The screening is carried out mainly in GP surgeries, with a small part of the service taking place in community clinics. The cytology tests are examined at the Cellular Pathology Laboratory at the RUH, with a few practices sending to the Southmead Hospital Laboratory. Colposcopy investigation (in which the cervix is directly visualised) and treatment for screen detected abnormality take place at the RUH and in peripheral colposcopy clinics provided from Community Hospitals. The local Programme meets all key national quality standards. The workload is summarised in table 2 below.

Number of women age 25 to 64 and eligible	44,315
Number of women 25 to 64 with adequate cytology test in last 5 years	35,406
Percentage of eligible women with test in last 5 years	80.0%
Number of women with adequate cytology test during previous year	10,488
Number of women during previous year, with cytology abnormality	728
Estimated number needing referral for investigation and possible treatment	292

Table 2. Cervical screening coverage rate and annual activity numbers for B&NES PCT.

Screening coverage by individual GP practice, and rates of inadequate test results, are available as part of the 'Avon Practice Comparisons' statistical indicators package. This shows that in 200/01, all practices had population coverage at or higher than 80%. All practices had rates of inadequate tests that fell within the nationally set standard of no higher than 12.9%.

The number of additional cervical cancer deaths that would be occurring in England and Wales were it not for the screening programme, has been estimated by the Office for National Statistics from analysing the long term mortality trends for different birth cohorts. The conclusion reached was that an additional 1,300 deaths each year would be occurring in England and Wales were it not for screening, which equates to an average of 5 women each year in B&NES having their lives prolonged as a result of cytology screening. The numbers with screen detected abnormality and needing investigation and treatment are far higher than this because the changes picked up on screening are very non-specific and most will return to normal on their own.