

CHAPTER 6

Respiratory Disease

6.1 Death Rates for Chronic Obstructive Pulmonary Disease

Nationally chronic obstructive pulmonary disease (COPD), which includes chronic bronchitis and emphysema, accounts for around 30% of all deaths from respiratory disease and is caused primarily by smoking. Death rates have fallen in Barnsley and Rotherham but not in Doncaster (figure 6.1), hence the focus on respiratory disease in Doncaster's HImP. Once again, the solution lies in reducing the use of cigarettes.

6.2 Hospital Admission Rates for Asthma

Asthma affects largely the youngest and oldest in society and rates vary a great deal between localities within health authorities. Figure 6.2 illustrates that rates are reducing in Doncaster and Rotherham, and their constituent PCGs/PCT, but not in Barnsley.

6.3 Clean Air – PM10 Levels

Atmospheric pollution, in the form of tiny PM10 particulates, have been shown to have a significant effect on respiratory and coronary heart disease mortality and morbidity (Künzli *et al*, 2000). Doncaster has a target, taken from a national standards for clean air, to reduce town centre PM10 levels to $50\mu\text{g}/\text{m}^3$ or less when expressed as the 99th percentile of daily maximum running 24 hour means.

Since the production of the HImP the national standard has changed to having no more than 30 days per year where the 24 hour mean exceeds $50\mu\text{g}/\text{m}^3$.

Figure 6.3 shows data from specific locations in each authority where readings have been taken for a continuous period. Readings from devices in different locations should not be compared, as the precise distance from sources of pollution and exposure to weather can drastically affect the readings.

The levels of PM10 particulates at Frenchgate in Doncaster (close to a particularly heavy road) have been generally rising over the last 18 months, but only on five days in the last year did the 24-hour mean exceed $50\mu\text{g}/\text{m}^3$.

Readings from the two TEOMs in Rotherham imply that there has been a slight decline in PM10 levels at Treeton (Arundel Avenue, adjacent to the Orgreave open cast site and in a solid fuel burning area) and Brinsworth (Brinsworth Howarth Junior and Infant School, White Hill Lane, Brinsworth, about 70m from the M1).

The Barnsley TEOM has only been situated at Churchfield Car Park for nine months and hence no trends are evident yet.

See also section 2.3 – Lung Cancer and figure 2.3c, where Doncaster's target for reducing the gap between deprived and affluent enumeration districts is covered.

Reference:

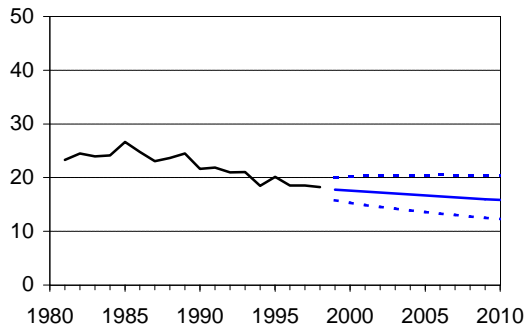
Künzli N, Kaiser R, Medina S, Studnicka M, Chanel O, Filliger P *et al* (2000). Public-health impact of outdoor and traffic-related air pollution: a European assessment. *Lancet* **356**:795-801.

Figure 6.1 - Death Rates for COPD

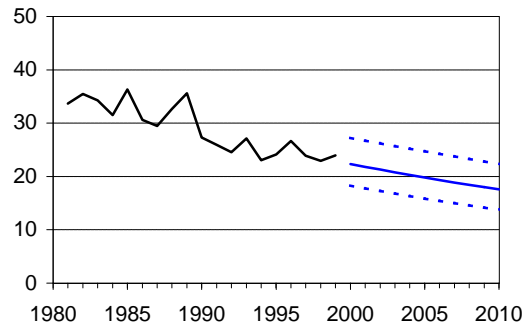
Directly Standardised Rates per 100,000 Resident Population
ICD-9 490-496 All persons aged under 75

Sources: ONS: Annual Abstracts of Deaths, Mid-Year Estimates of Population and 20th Century Mortality in England & Wales; Trent RHA: Deaths prior to 1992.

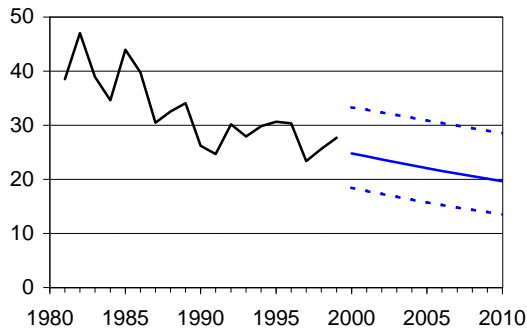
England & Wales



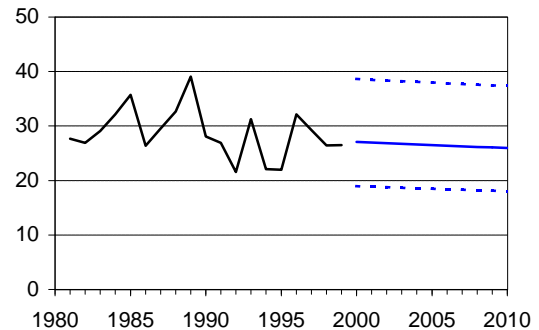
South Yorkshire Coalfields HAZ



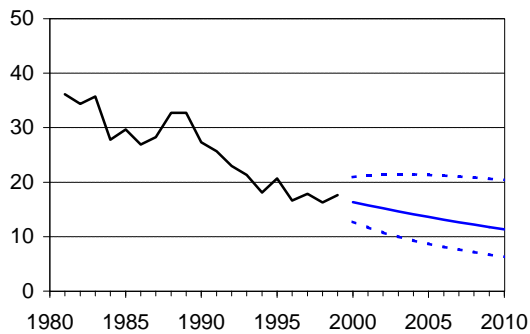
Barnsley HA



Doncaster HA



Rotherham HA



— Directly Standardised Rate
— Forecast Rate
..... 95% Confidence Interval

Rates forecast with 95% confidence intervals
by Holt's Method on logit-transformed data.

Figure 6.2 - Asthma Admission rates

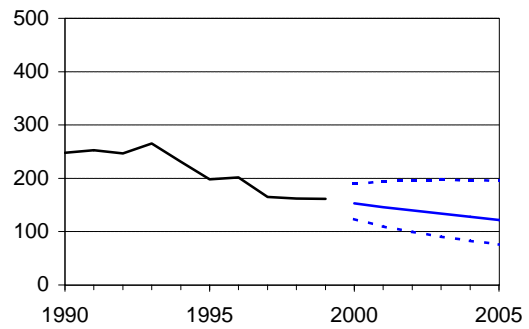
Directly Standardised Rates per 100,000 Resident Population
 Primary Diagnosis: ICD-9 493, ICD-10 J45 and J46
 All persons all ages

Sources: CMDS, Trent Region PIS Archive, ONS Mid-Year Estimates of Population

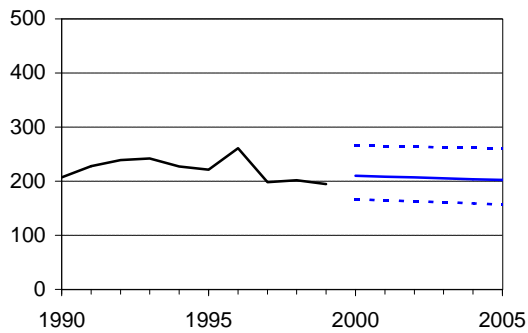
England and Wales

Data Not Available

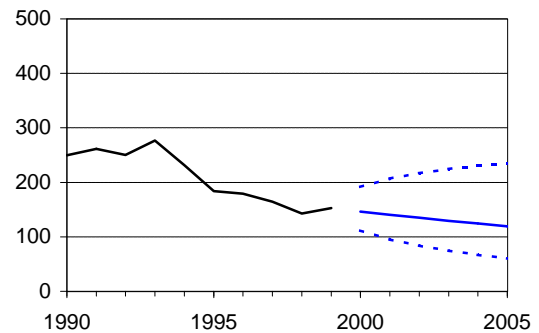
South Yorkshire Coalfields HAZ



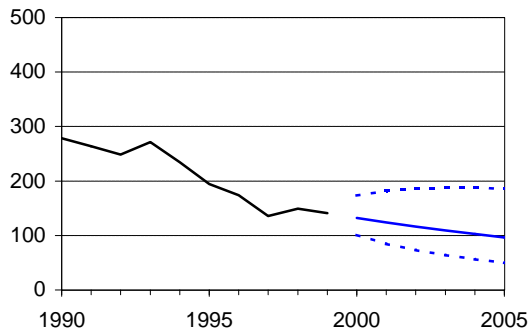
Barnsley HA



Doncaster HA



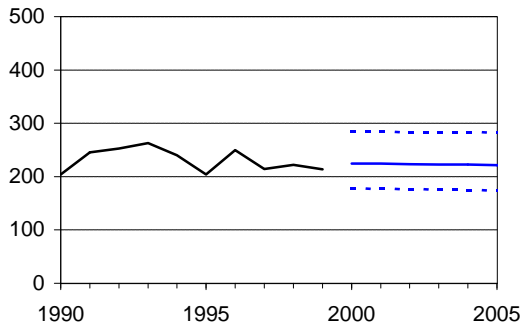
Rotherham HA



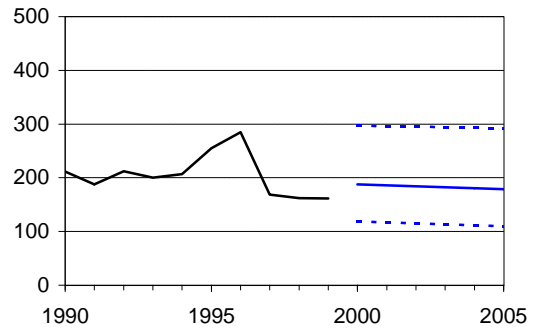
— Directly Standardised Rate
 — Forecast Rate
 95% Confidence Interval

Rates forecast with 95% confidence intervals
 by Holt's Method on logit-transformed data.

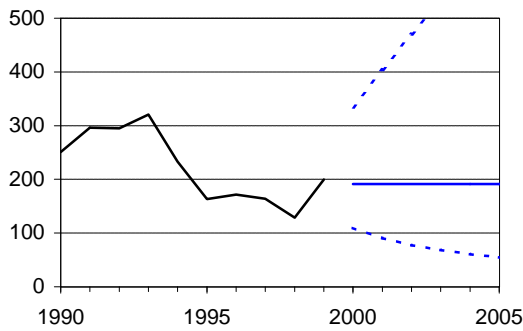
Barnsley East PCG



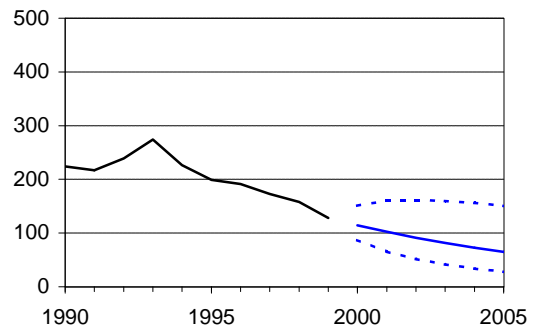
Barnsley West PCG



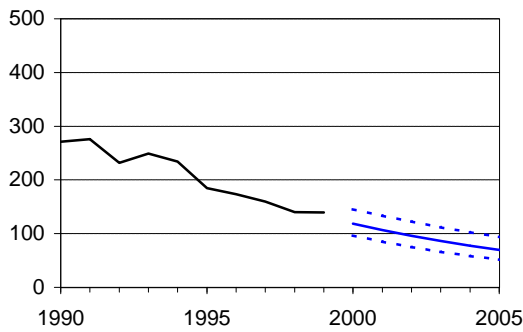
Doncaster Central PCT



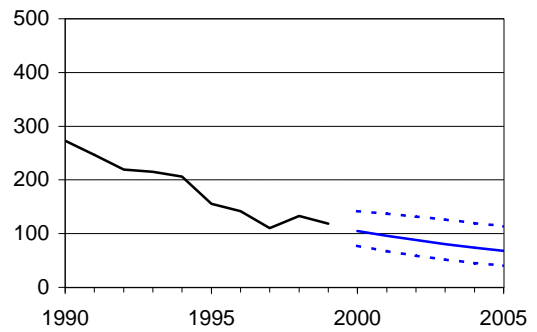
Doncaster East PCG



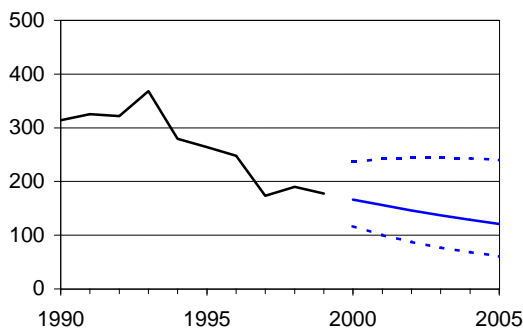
Doncaster West PCG



Rother Valley PCG



Rotherham PCG



Wentworth PCG

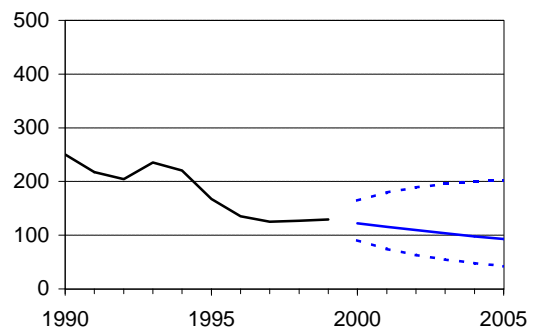


Figure 6.3 - Air quality monitoring

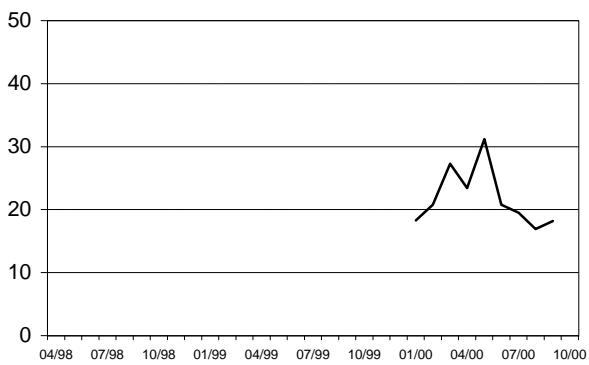
PM10 levels (micrograms per cubic metre)

Target: Doncaster: To reduce town centre PM10 levels to 50 micrograms per cubic metre or less when expressed as the 90th percentile of daily maximum running 24 hour means.

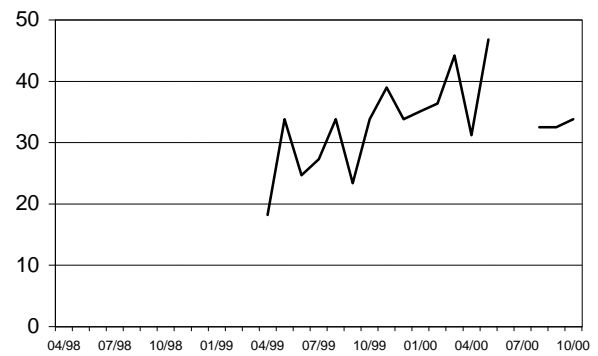
Source: Barnsley, Doncaster and Rotherham MBCs

Note: TEOM results converted to Gravimetric scale

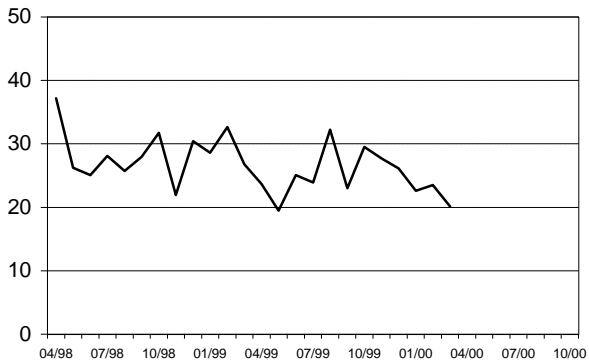
Barnsley - Churchfield Car Park



Doncaster - Frenchgate



Rotherham - Treeton



Rotherham - Brinsworth

