

Chronic Obstructive Pulmonary Disease (COPD) : The Epidemiology, Economics and Quality of care in the West Midlands

September 2009

*Dr Christopher Zishiri
George Che Fowajuh*

Outline

1. Introduction
2. Risk factors
3. Epidemiology
 - ⦿ Admissions
 - ⦿ Prevalence
 - ⦿ Mortality
4. Quality of Care
5. Economics
6. Recommendations

Introduction

1. COPD
 - ⊙ Range of conditions that include bronchitis and emphysema
 - ⊙ Characterised by airflow obstruction, progressive and not fully reversible.
 - ⊙ May coexist with asthma posing diagnostic uncertainty
 - ⊙ Diagnosis is supported by spirometry.

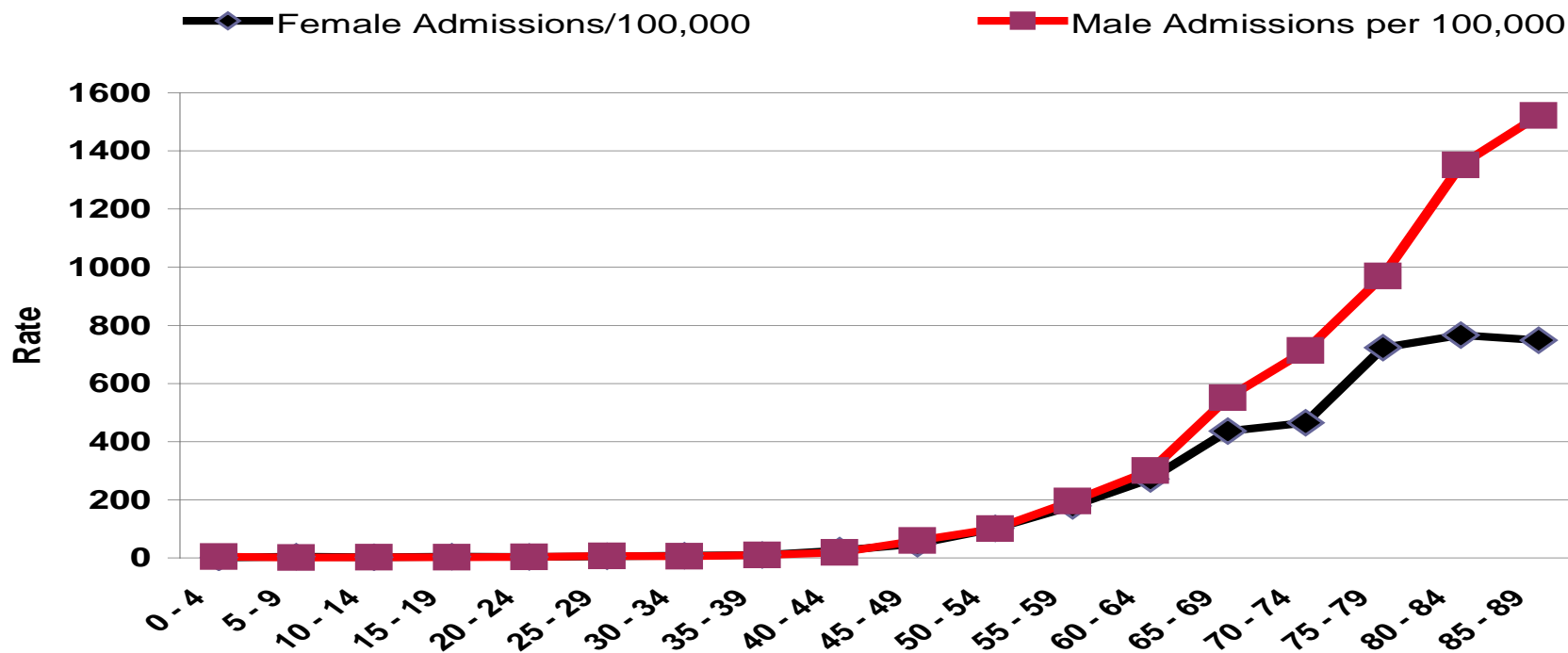
Risk Factors

1. Smoking
2. Air Pollution
3. Occupation
4. Alpha Antitrypsin Deficiency

Epidemiology

| | |
|-----|--|
| J40 | Bronchitis not specified as acute or chronic |
| J41 | Simple & mucopurulent chronic bronchitis |
| J42 | Unspecified bronchitis |
| J43 | Emphysema |
| J44 | Other COPD |

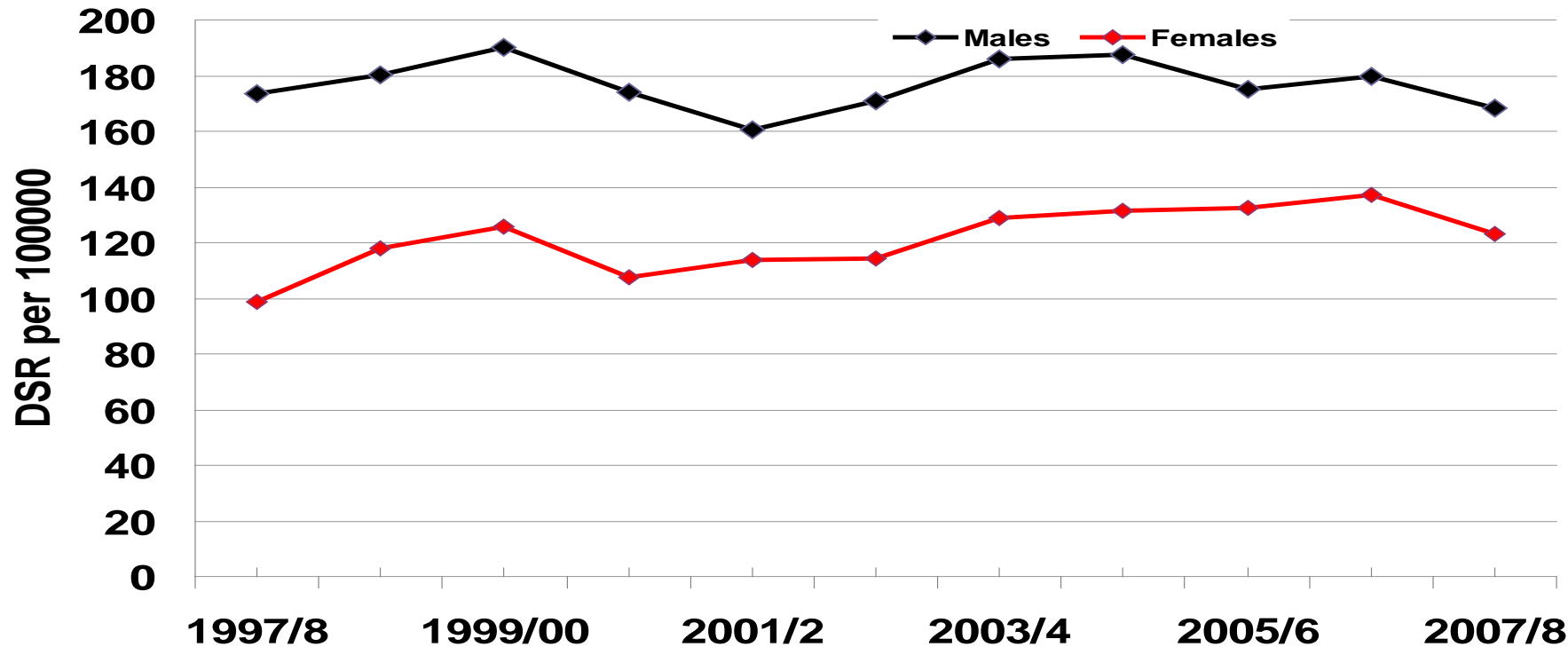
Age and sex specific admission rates for COPD in the West Midlands Region 2007-08



Source: WMPHO, Hospital Episode Statistics

COPD is more common among men than women and admissions are common above the age of 40 years.

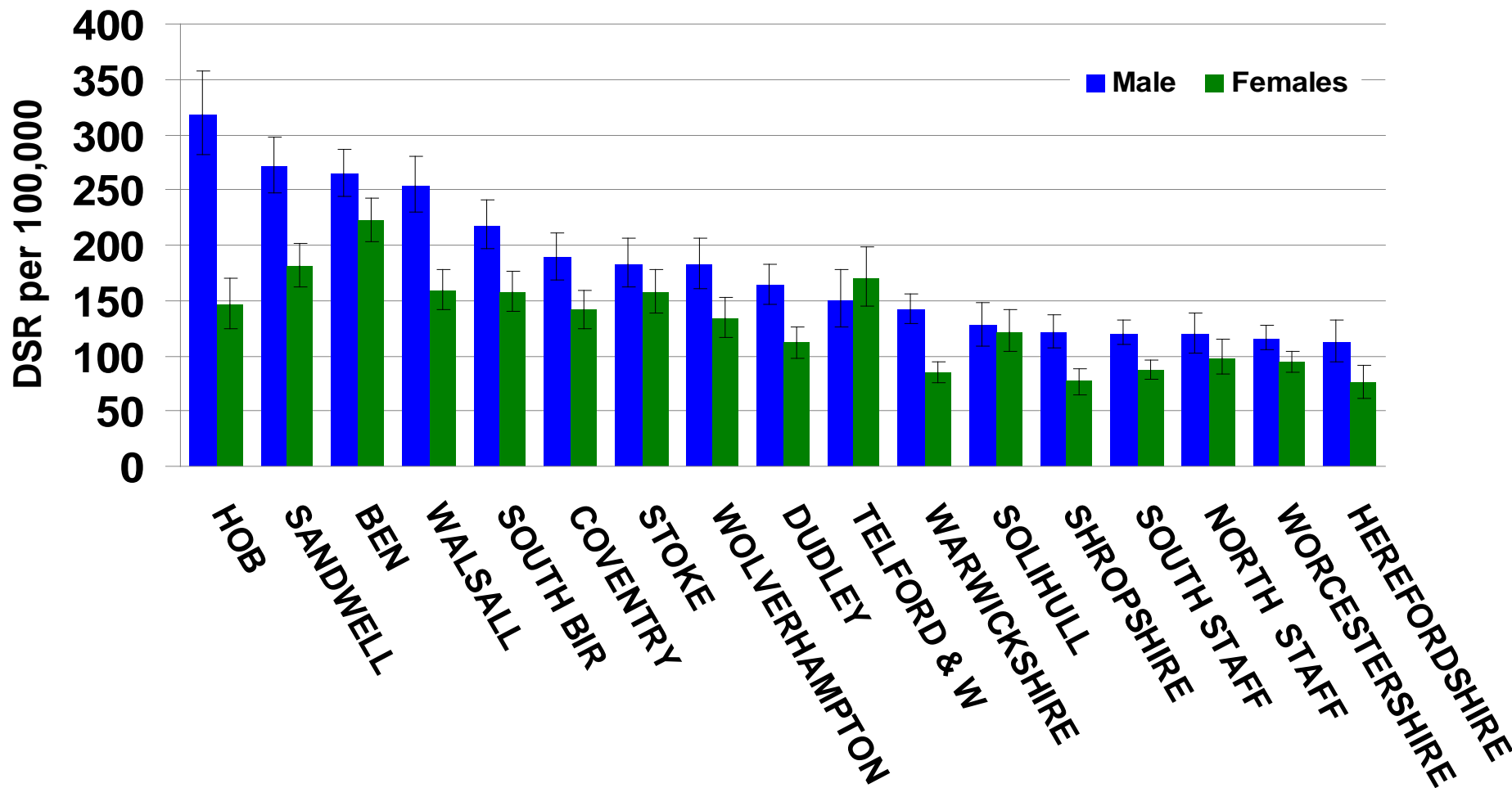
Age & Sex DSR Admission rates for COPD in the West Midlands 1997-2008



Source: WMPHO, Hospital Episode Statistics.

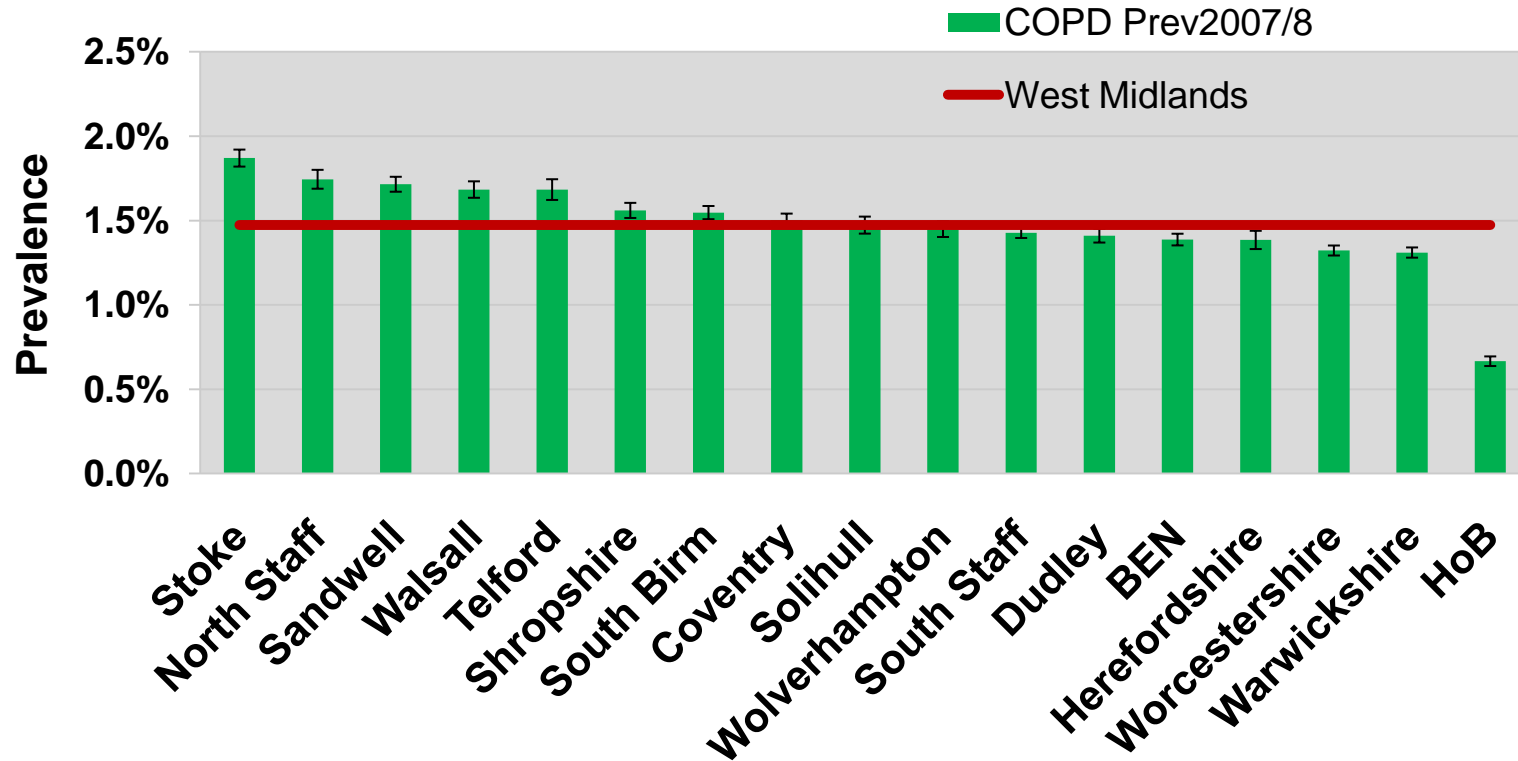
Admission rates are fairly constant. $M > F$

Age & Sex DSR admission rates for COPD for PCTs in the West Midlands 2007-08



HOB males highest, lowest Herefordshire. Inequalities M vs. F

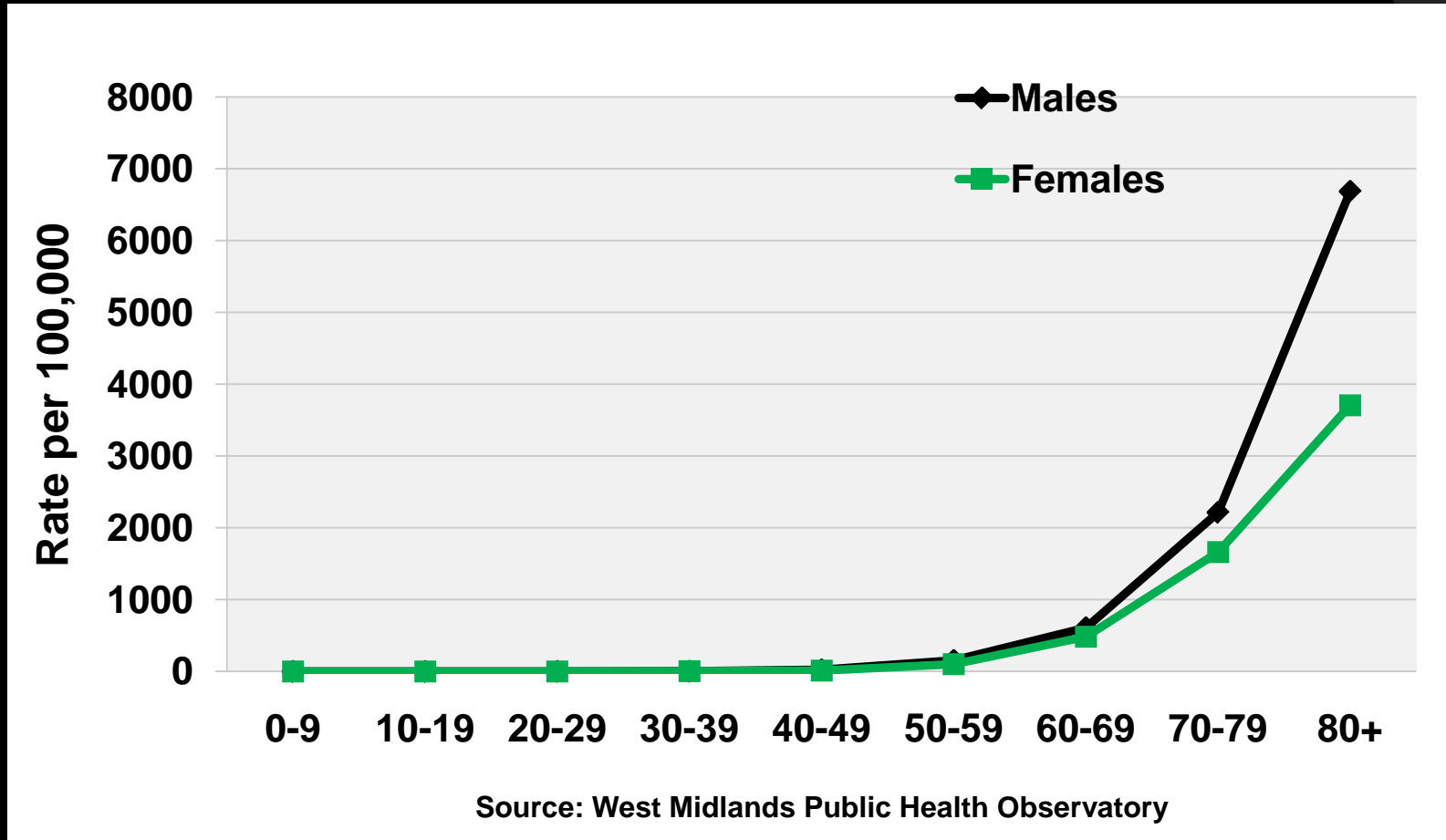
Unadjusted prevalence of COPD by PCT in West Midlands, 2007 - 2008



Source: Quality and Outcomes Frameworks

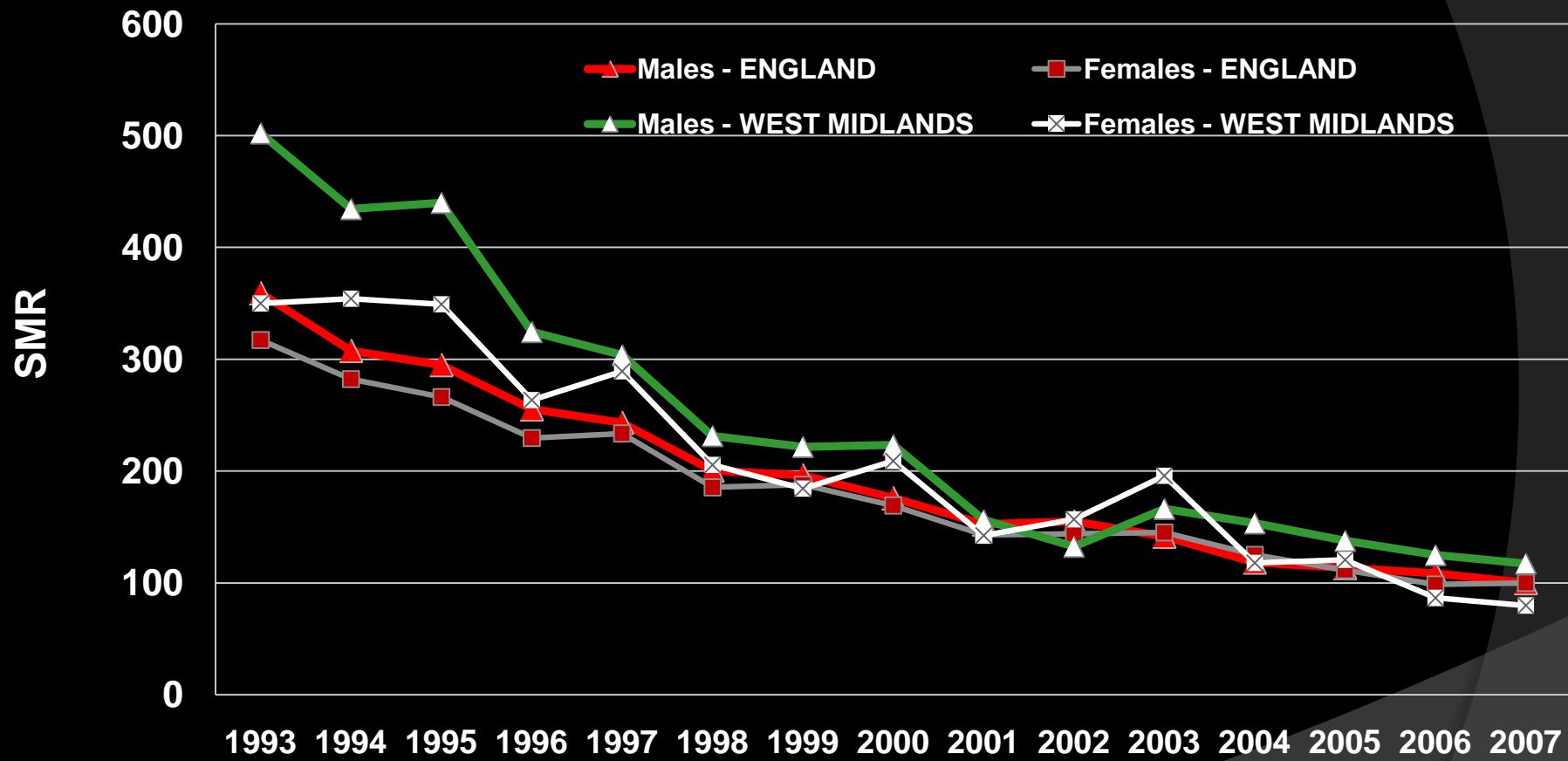
HOB lowest prevalence. Stoke on Trent highest.

Age and Sex Specific Death rates for COPD in the West Midlands 2007



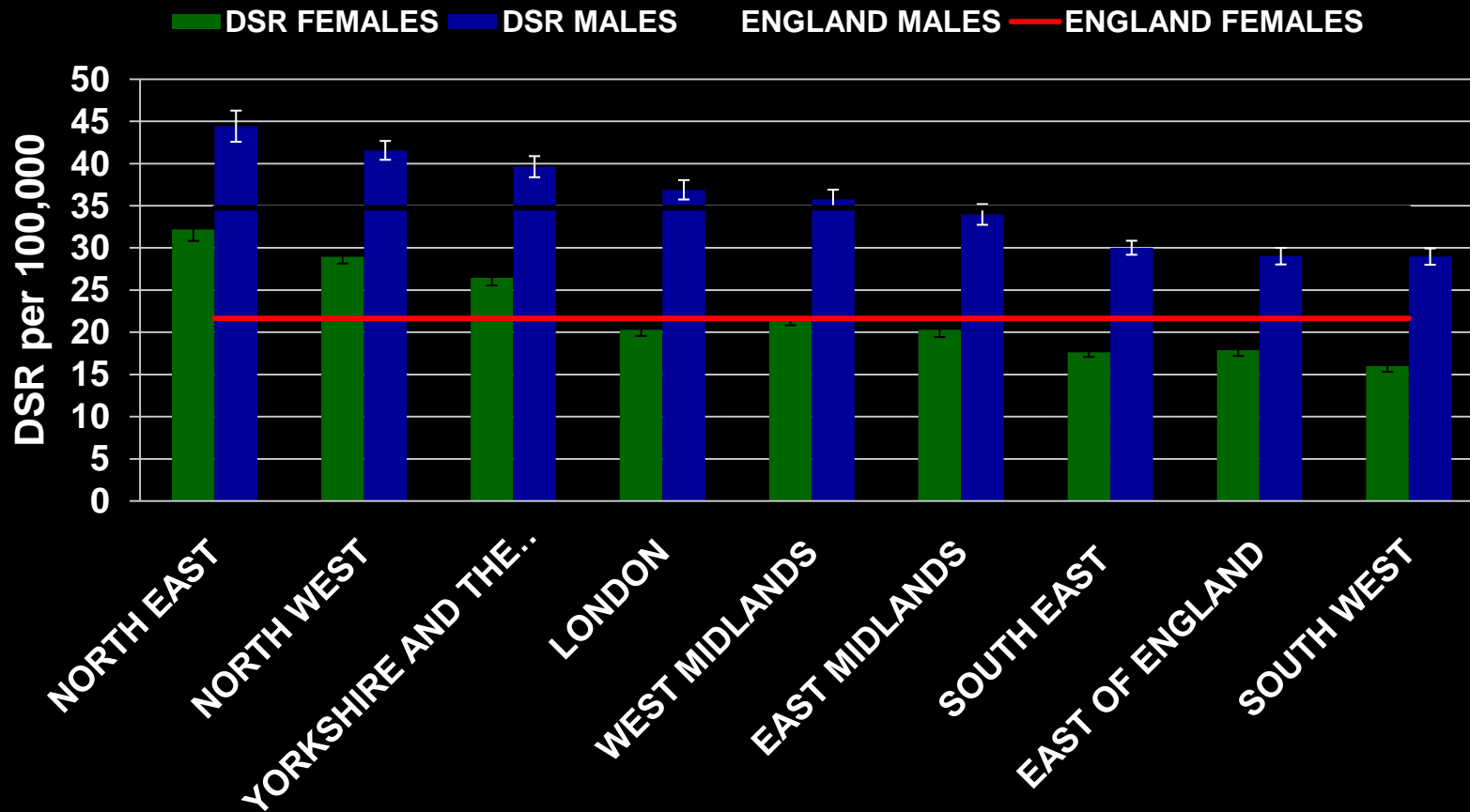
Mortality increases with age. $M > F$.

Trends in mortality (SMR) from COPD 1993 to 2007, based on England age specific rates 2006



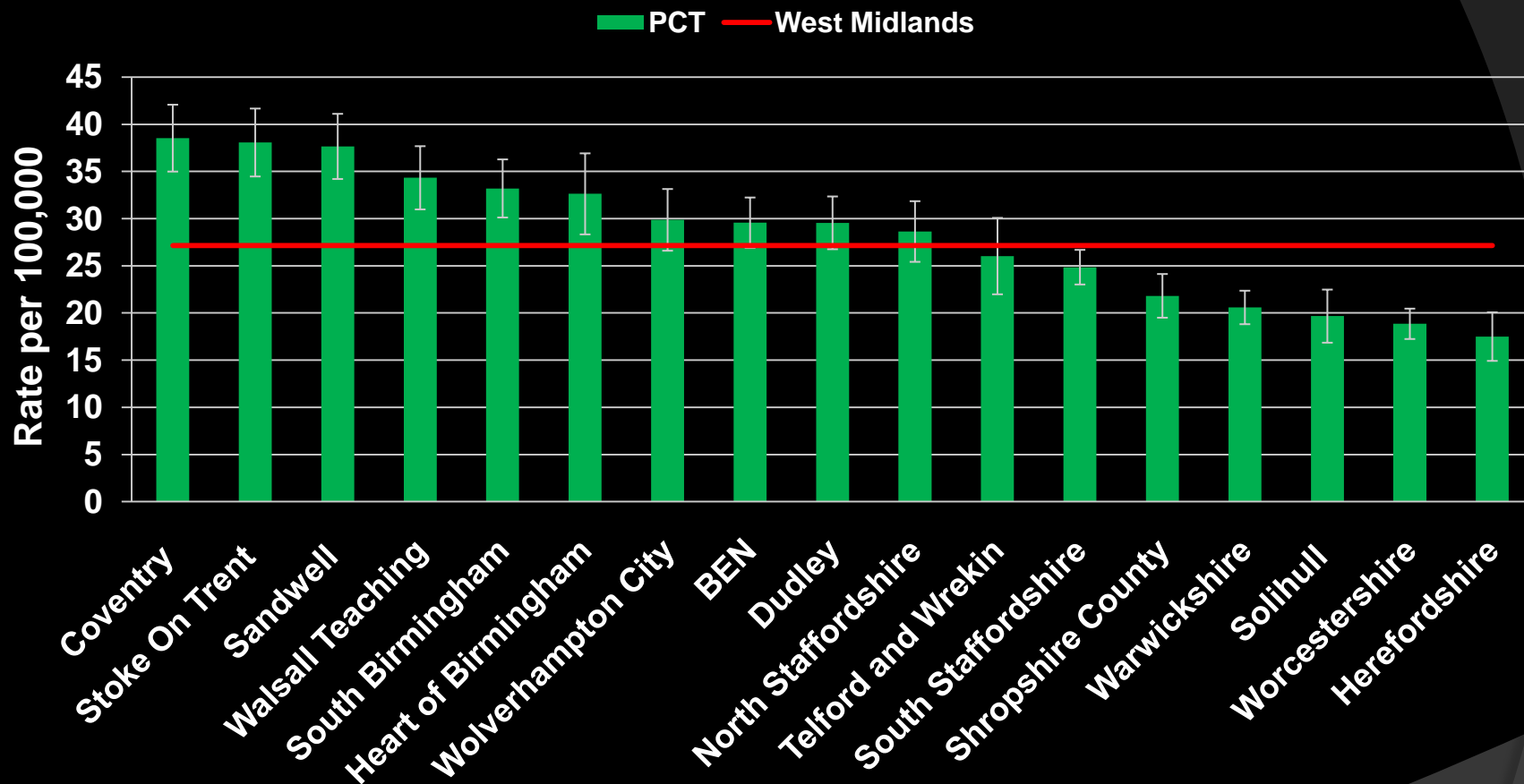
© Text

Mortality from COPD, DSR for all persons, 2005-07 pooled, all regions



© Text

DSR for COPD Mortality for all ages, pooled 2005-2007 by PCT



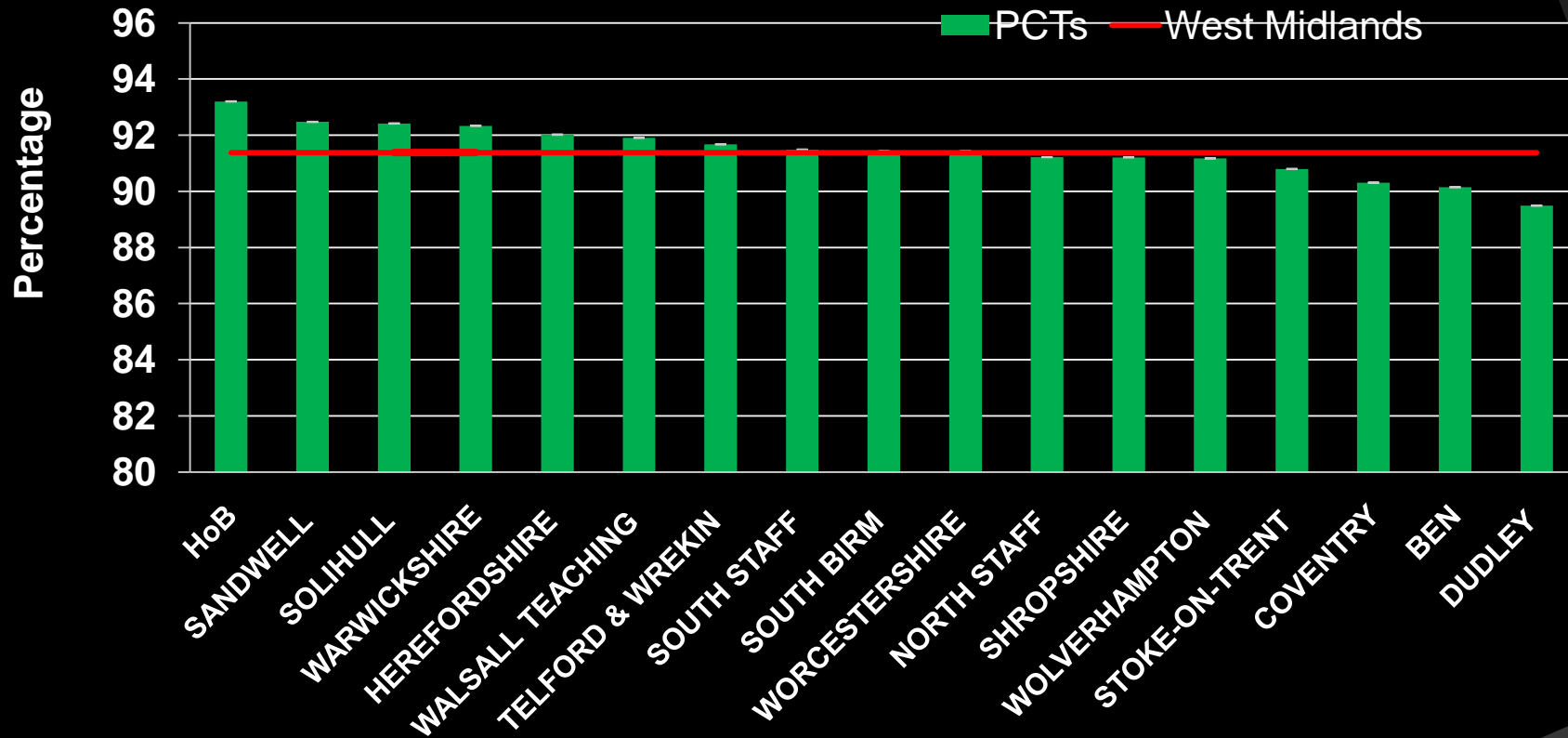
A PCT like HOB demonstrates Low Prevalence, high level of admissions and more deaths.

Percentage of all patients with COPD in whom diagnosis has been confirmed by spirometry including reversibility testing 2007-08



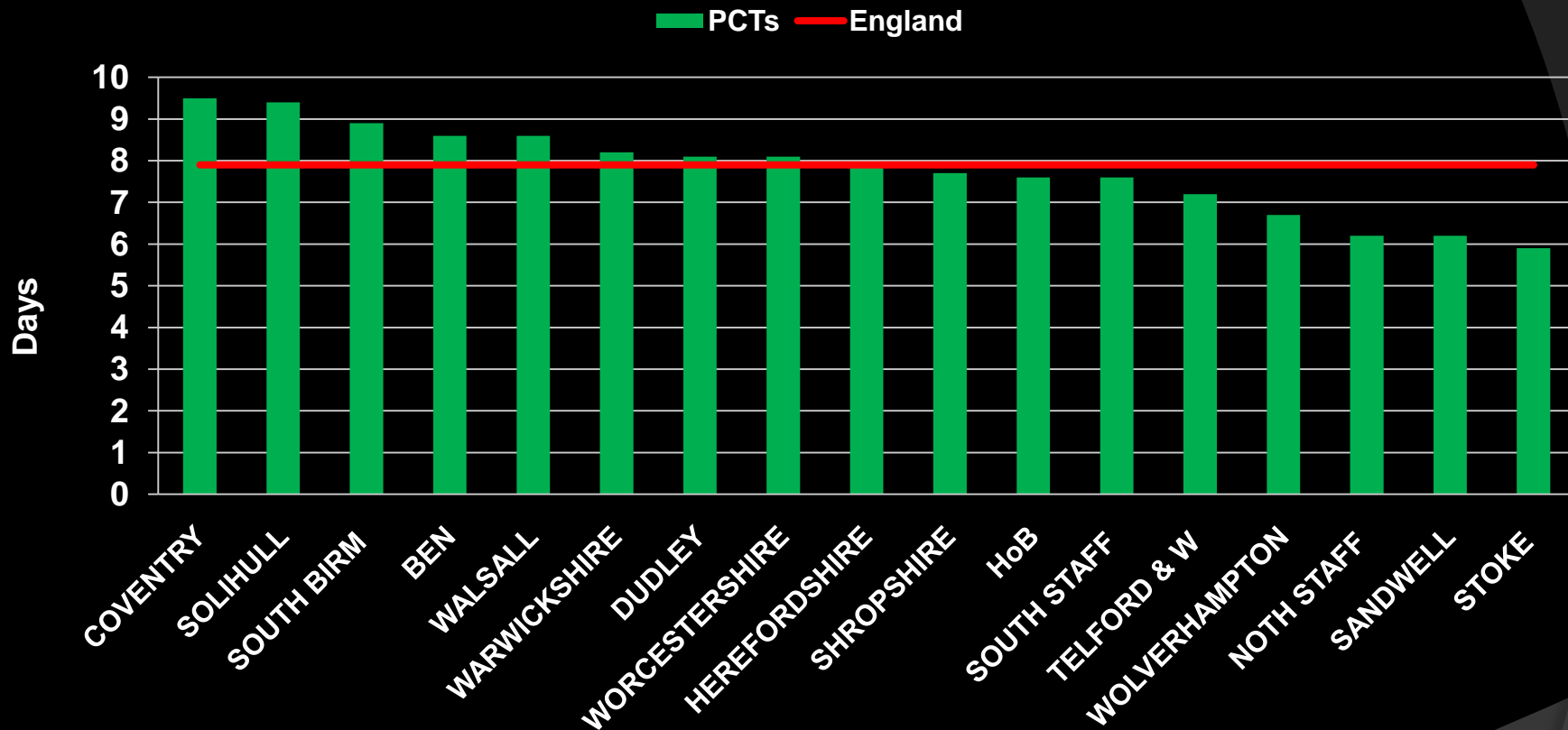
© Text

The Percentage of all patients with COPD who have had influenza immunisation in the preceding 1 September to 31 March by PCT 2007-08



© Text

Average length of stay for COPD patients by PCTs in West Midlands, 2006/7



Source: DH, Disease Management Information Toolkit, 2008.

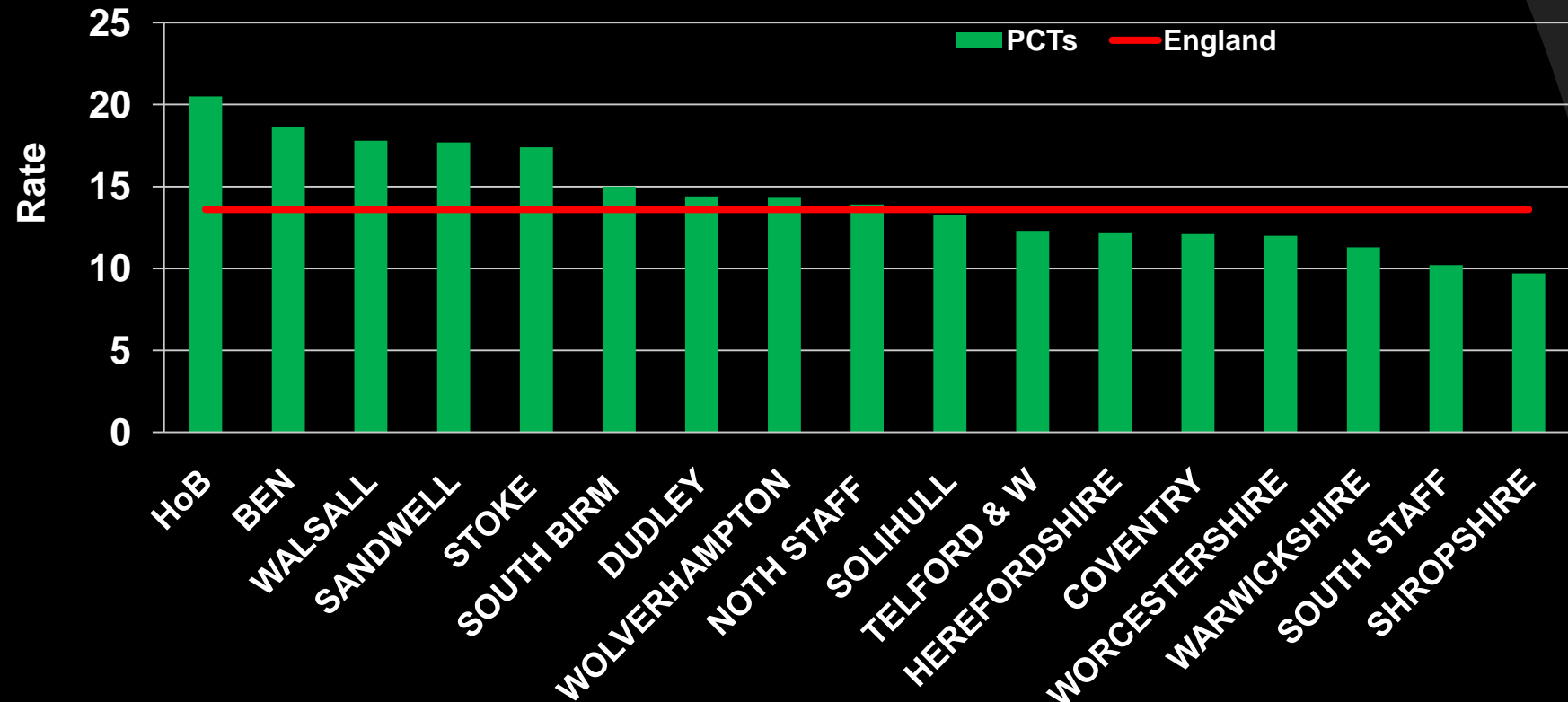
© Text

Potential savings from reducing admission rates to the England average in PCTs with average LOS above England average

| PCT | COST/BED DAY | POT. SAVINGS |
|-----------------------|---------------------|---------------------|
| Coventry | £ 167 | £ 159 175. |
| Solihull | £167 | £ 97 759 |
| South Birm | £167 | £ 130 125 |
| BEN | £167 | £ 123 880 |
| Walsall | £167 | £ 76 627 |
| Warwickshire | £167 | £ 32 429 |
| Dudley | £167 | £16 194 |
| Worcestershire | £167 | £ 27 656 |

© Text

Admission rate per 100 people in the COPD register by PCT in the West Midlands, 2006



Source: Department of Health, Disease Management Information Toolkit, 2008.

© Text

Potential savings from reducing admission rates to the England average in PCTs with admission rates above England average

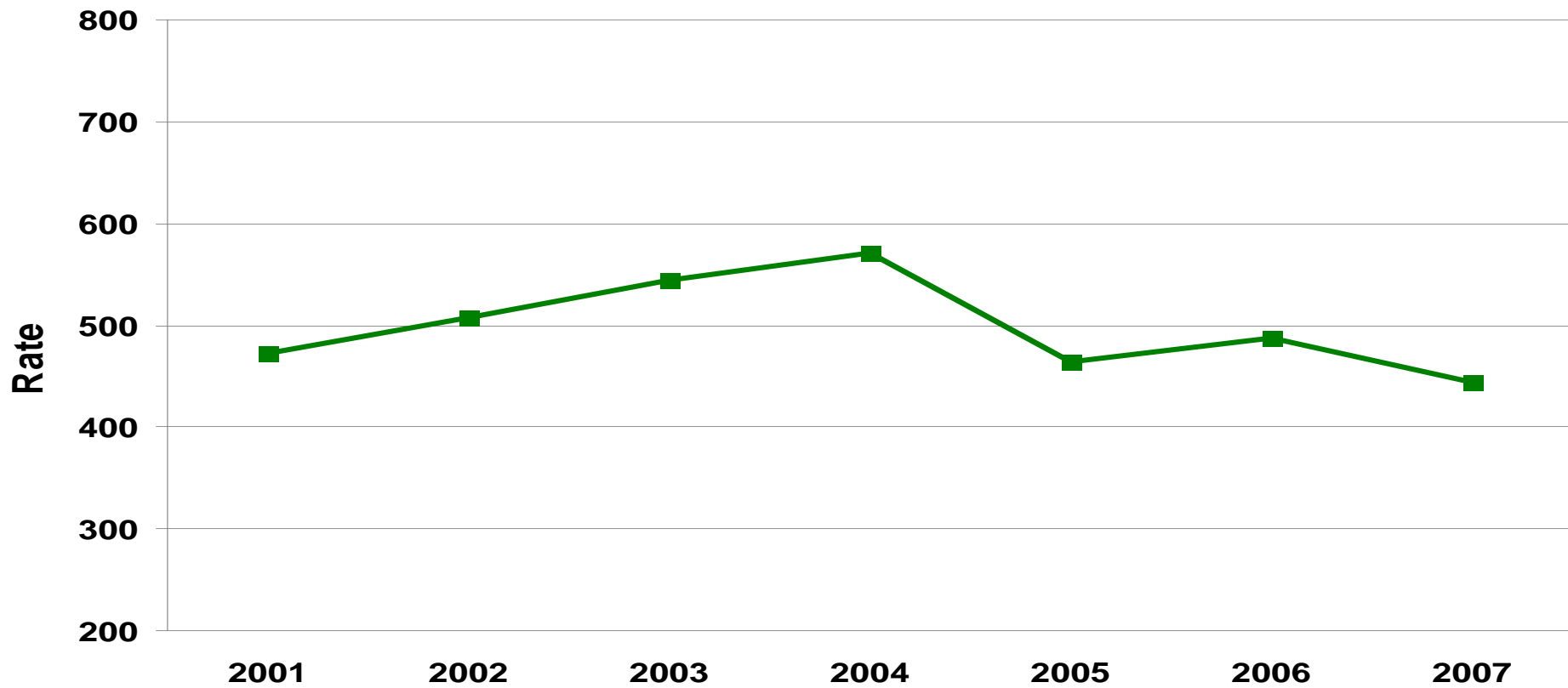
| PCT | COST/ADMISSION | POTENTIAL SAVINGS |
|---------------|----------------|-------------------|
| HoB | £ 1 707 | £ 247 707 |
| BEN | £ 1 707 | £ 505 032 |
| Walsall | £ 1 707 | £ 292 178 |
| Sandwell | £ 1 707 | £ 375 289 |
| Stoke | £ 1 707 | £ 323 875 |
| South Birm | £ 1 707 | £ 138 494 |
| Dudley | £ 1 707 | £ 55 338 |
| Wolverhampton | £ 1 707 | £ 40 935 |
| North Staff | £ 1 707 | £ 14 744 |

© Text

Recommendations

1. Health education and promotion
2. Targeted Smoking cessations services.
3. Use of NICE guidance for COPD
4. Empower patients to self manage

Trends in Annual Prevalence 2001 - 2007: Age Standardised person prevalence rates per 10,000 for COPD



Source: Royal College of General Practitioners - Birmingham Research Unit

© Text