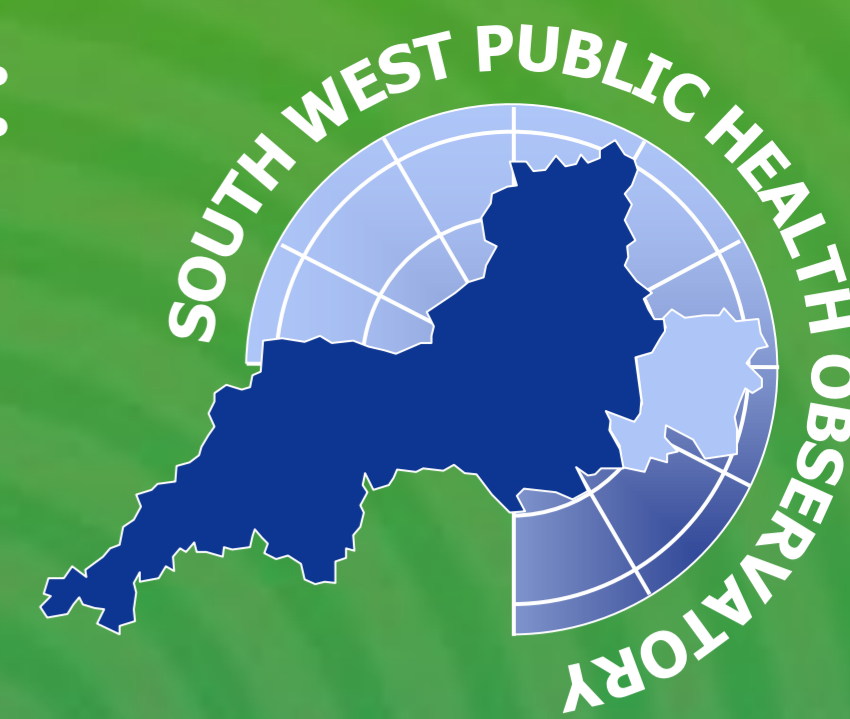


# Mesothelioma in the South West of England : Trends, geographical distribution and gender differences



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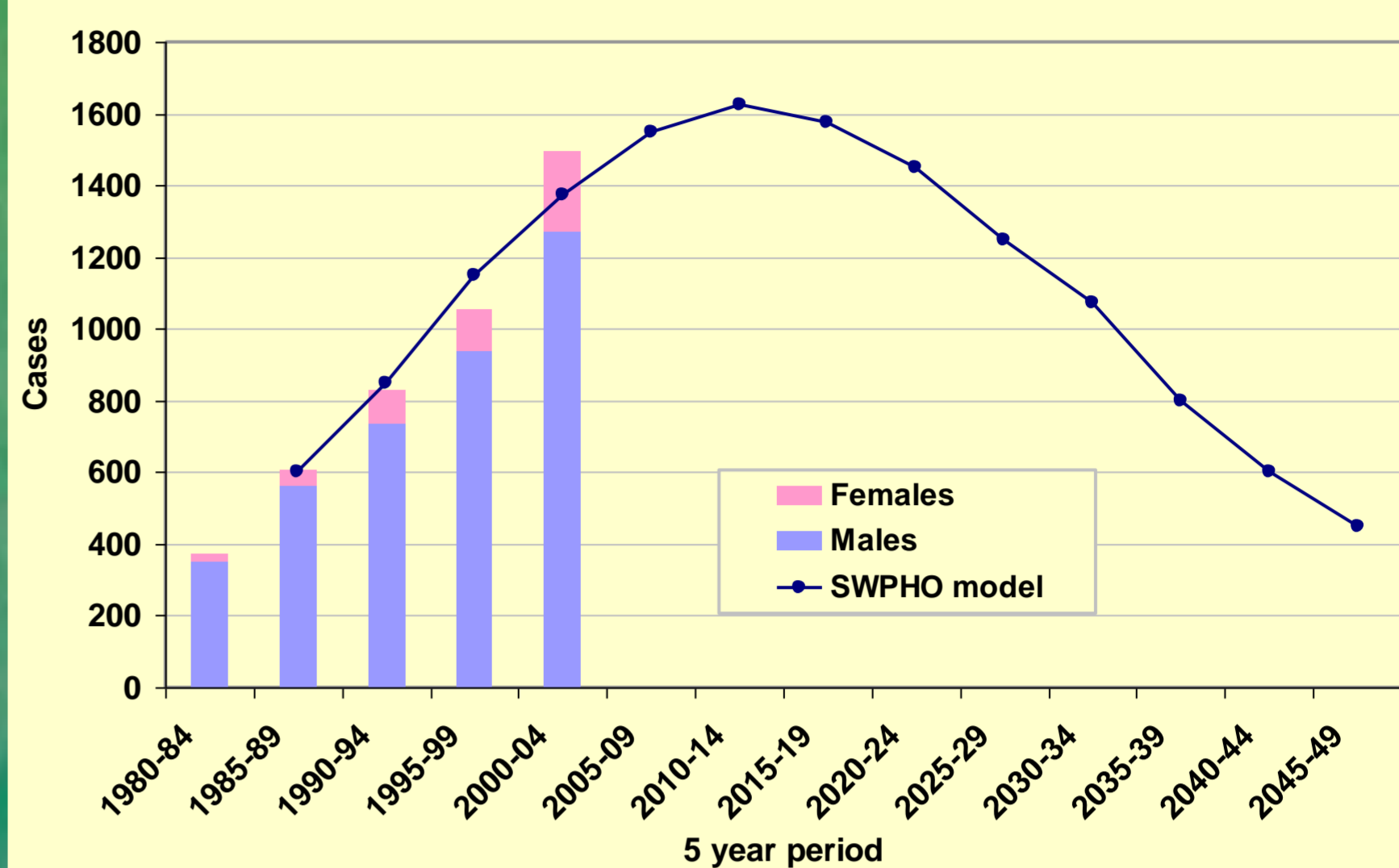
## Introduction

The number of people dying from mesothelioma in the South West of England continues to rise year on year.

Mesothelioma is a rare cancer of the lung or abdomen. At least 80% of cases are caused by asbestos exposure. Less than 1 in 10 people who receive this diagnosis are alive 3 years later. The risks presented by asbestos were recognised over 30 years ago and legislation restricting its use brought in during the 1970s. However, because the disease has a typical latency period of 30 to 40 years many new cases continue to occur.

SWPHO has produced an age cohort model using cancer registry data<sup>1</sup> that predicts that the disease will peak by about 2015. This agrees with a methodologically different model produced by the UK Health and Safety Executive (HSE)<sup>2</sup>.

Recorded and predicted cases of mesothelioma in the South West of England



## The South West Public Health Observatory (SWPHO)

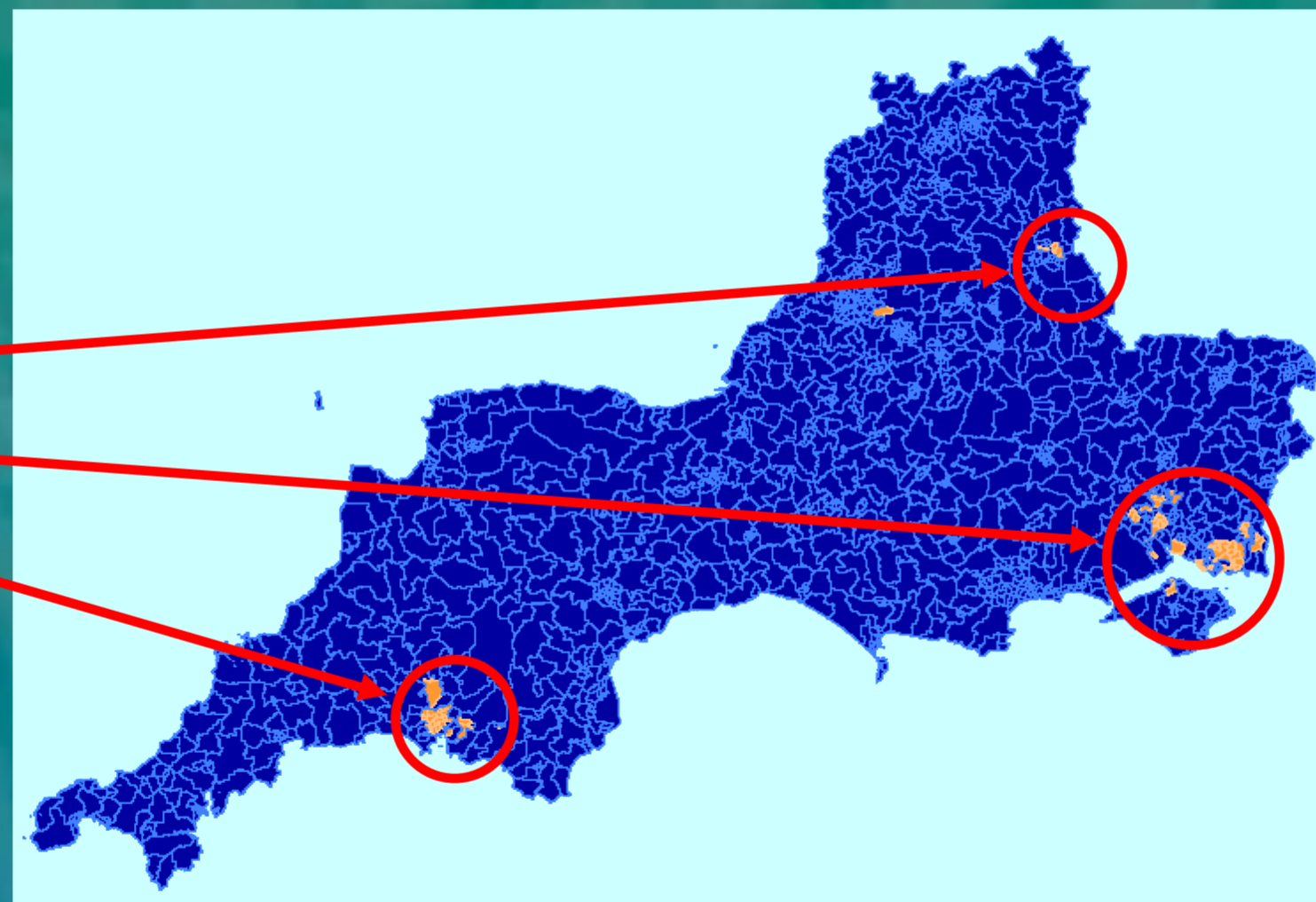
The South West Public Health Observatory collects monitors and analyses health related data in the South West of England. Part of our activity is as a cancer registry for this region together with Hampshire and the Isle of Wight. This area has a population of some 6.5 million people. The registry recorded diagnosis and treatment details for over 67000 cases in 2005 (including non-malignant neoplasms).

## Geographic clustering

An analysis of male rates of mesothelioma in electoral wards identified 3 statistically significant clusters of disease.

Ward	Relative risk	Population	P value
Swindon	2.4	13000	0.01
Southampton & Portsmouth	2.2	311000	<0.001
Plymouth	2.6	147000	<0.001

Orange wards indicate a significantly high level of male mesothelioma with a statistical confidence of 99.8% (calculated using cases diagnosed 1980-2004). Risk ratios are compared to the overall rate in the region.



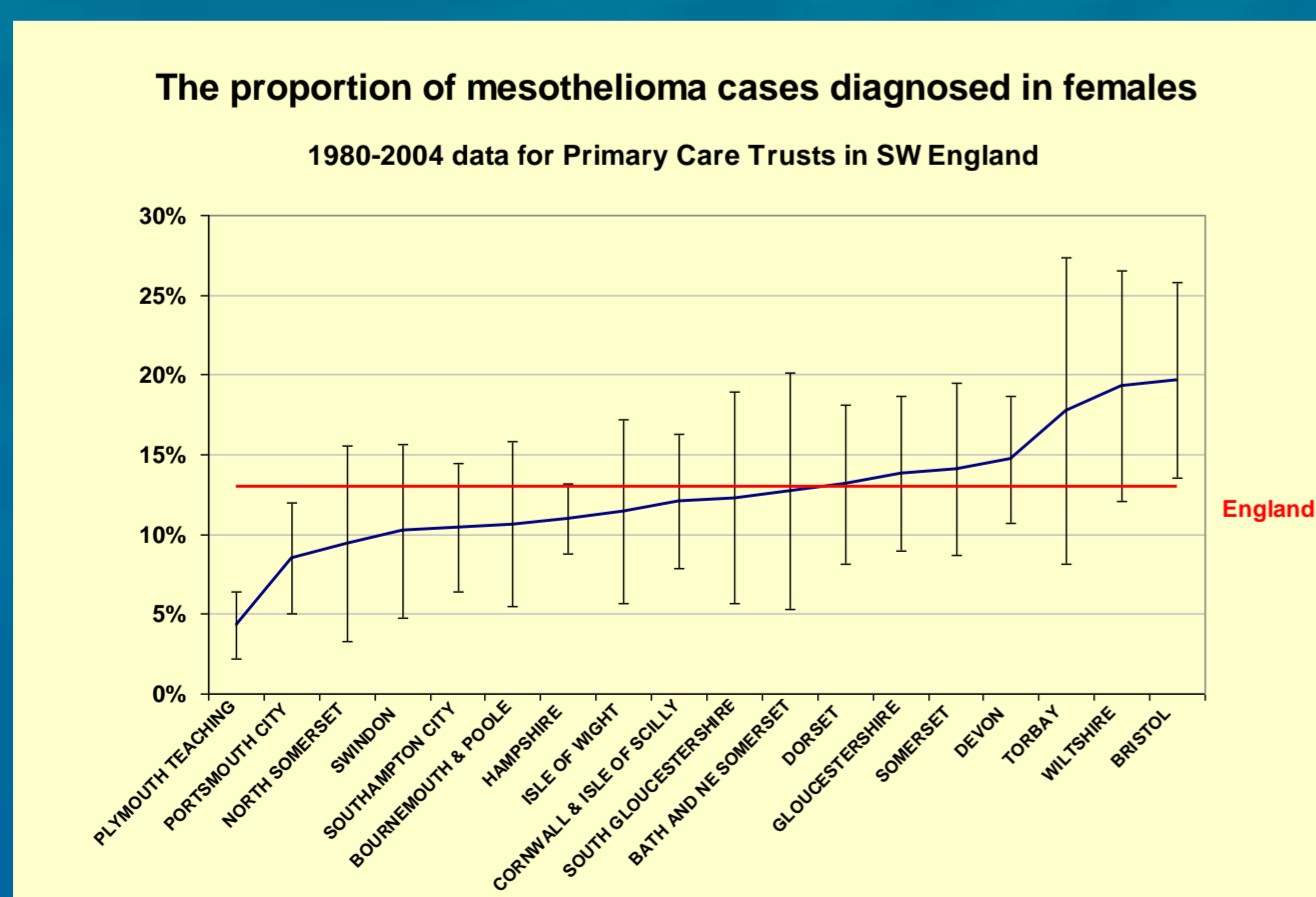
Occupational exposure to asbestos is the most common cause of the mesothelioma in men. The high risk occupations have been identified by the HSE<sup>2</sup> include construction work, plumbing, gas fitting and shipyard workers. Portsmouth Southampton and Plymouth have large shipyards and are industrial centres. Swindon has a tradition of railway engineering.

No significant clustering was found in rates of mesothelioma among women. Few women have been employed in high risk occupations.

The identification and characterisation of ward data was done using the freely available epidemiological GIS tool, SATSCAN<sup>4,5</sup>.

## Occupation and gender

Mesothelioma is much less common among women than men. 12% of cases are female although this proportion has risen significantly between 1980 and 2004. Plymouth stands out with a significantly low fraction of 5% of cases among women. The Devonport shipyard here was unusual in providing an on-site laundry<sup>6</sup> – this may have reduced the risk to the families of dockyard workers to secondary exposure to asbestos due to contaminated overalls.



Death certificates suggest secondary exposure as a cause of mesothelioma among women.

UK death certificates record a person's occupation and that of their spouse. Standard occupation classifications<sup>7</sup> and HSE mesothelioma risk categories<sup>3</sup> were used to analyse this data for people who had died from mesothelioma. For males, high risk occupations were much more common (43%) than in the general population (9%) – suggesting occupational exposure. Very few females work in high risk occupations and among female deaths from mesothelioma high risk occupations were at the same proportion as in the general population (1%). However, among the husbands of these females, high risk occupations are more common (23%) than in the general population (9%) – suggesting secondary exposure. It is believed that problems coding occupation from death certificates lead to the underestimate of the proportion of deaths in high risk occupations.

There exist a large number of medical case studies which identify secondary exposure to asbestos as the cause of mesothelioma in women<sup>8</sup>. As far as we know though this is the first population-based evidence for this route.

## References

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