

# The epidemiology and survival of pancreatic cancer in England, 1998-2006

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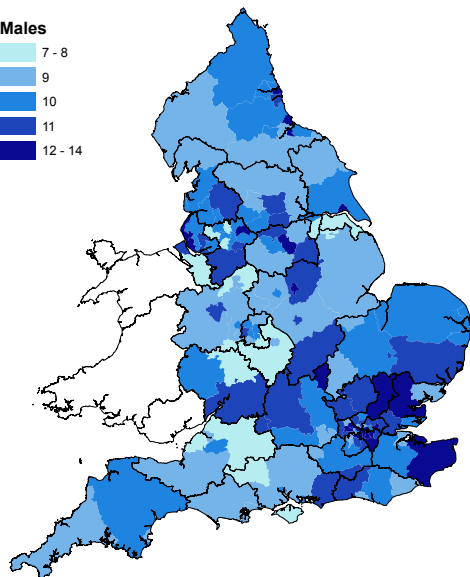
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**Map 1a: Incidence of pancreatic cancer (per 100,000 Euro pop) by primary care trust, males, England, 1998-2006**

**Males**

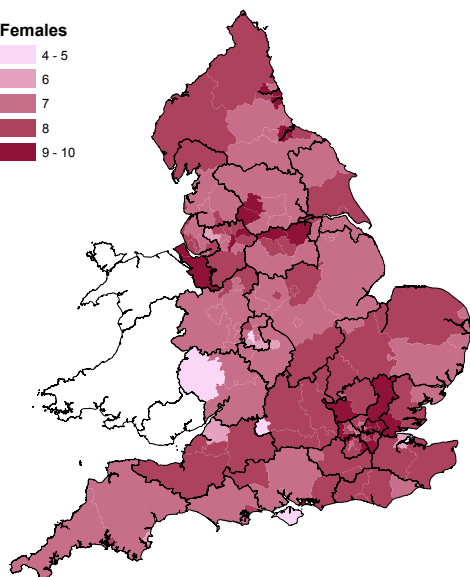
- 7 - 8
- 9
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- 12 - 14



**Map 1b: Incidence of pancreatic cancer (per 100,000 Euro pop) by primary care trust, females, England, 1998-2006**

**Females**

- 4 - 5
- 6
- 7
- 8
- 9 - 10



## Introduction

The aim of this study was to describe the incidence and one-year survival of pancreatic cancer in England.

## Methods

Data on 53,265 patients (25,985 males; 27,280 females) with pancreatic cancer (ICD10 C25) diagnosed in England between 1998 and 2006 were extracted from the National Cancer Repository Dataset. Age-standardised incidence rates (per 100,000 European standard population), ASR(E), were calculated by sex, socioeconomic deprivation, primary care trust and cancer network of residence. Incidence rates were displayed on maps and in funnel plots to assess variation between primary care trusts and cancer networks. One-year survival was calculated nationally and for individual cancer networks with the Kaplan-Meier method. Follow-up was to the end of 2006.

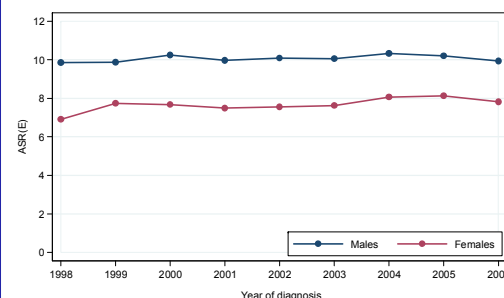
## Results

The ASR(E) of pancreatic cancer was higher in males (10.1) compared to females (7.7). Between 1998 and 2006 the incidence remained stable (Figure 1) and was higher in more deprived areas (Figure 2). Higher incidence rates were in the South East and West of England (Map 1a,b). Compared to England, South East London Cancer Network had a significantly higher incidence for both sexes (Figure 3,4) and North East London Cancer Network a higher incidence in males (Figure 3). Greater Midlands and Arden Cancer Networks had a significantly lower incidence in both sexes (Figure 3,4). The survival for pancreatic cancer was poor with one-year survival being only 14.2% (15.0% males; 13.5% females). There was variation in survival between cancer networks (Map 2a,b). Significant heterogeneity between cancer networks was found ( $p < 0.0001$ ) which also remained following adjustment for age, sex and deprivation ( $p < 0.0001$ ).

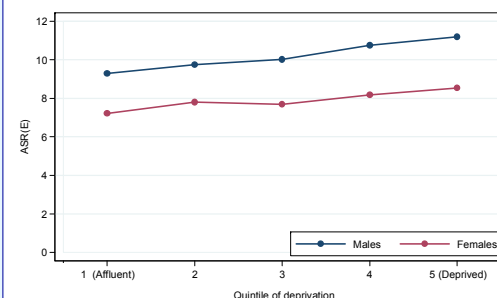
## Conclusions

There is some variation in incidence and survival between cancer networks in England. Further investigation will consider the possible influence of demographic factors on incidence rates and the effect of patient case-mix and treatment on survival differences.

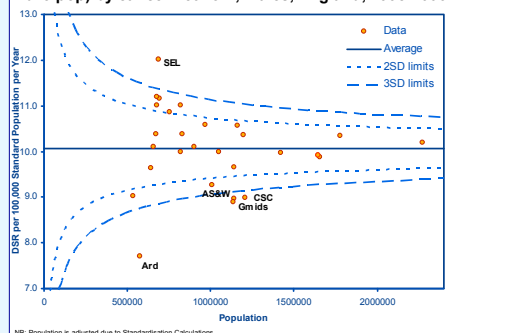
**Figure 1: Incidence of pancreatic cancer (per 100,000 Euro pop) by year of diagnosis, England, 1998-2006**



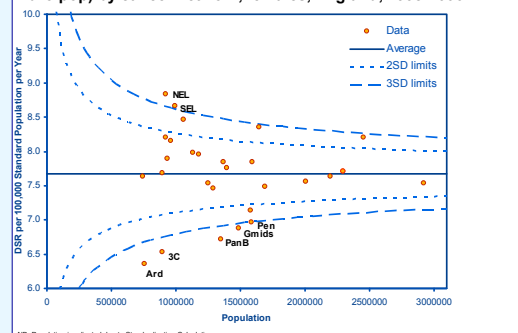
**Figure 2: Incidence of pancreatic cancer (per 100,000 Euro pop) by socioeconomic deprivation, England, 2002-2006**



**Figure 3: Funnel plot of incidence of pancreatic cancer (per 100,000 Euro pop) by cancer network, males, England, 1998-2006**



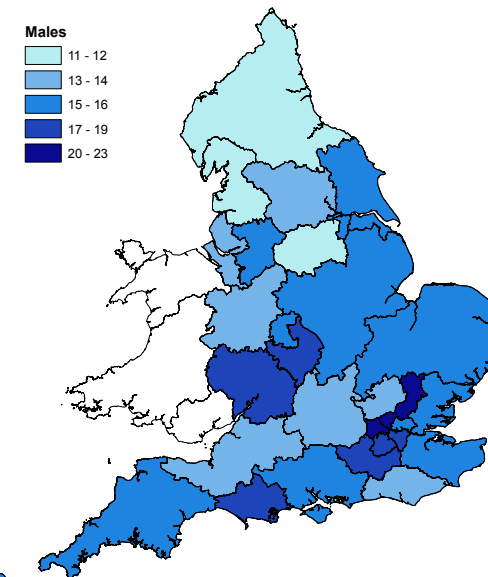
**Figure 4: Funnel plot of incidence of pancreatic cancer (per 100,000 Euro pop) by cancer network, females, England, 1998-2006**



**Map 2a: One-year survival (%) of pancreatic cancer patients by cancer network, males, England, 1998-2006**

**Males**

- 11 - 12
- 13 - 14
- 15 - 16
- 17 - 19
- 20 - 23



**Map 2b: One-year survival (%) of pancreatic cancer patients by cancer network, females, England, 1998-2006**

**Females**

- 11 - 12
- 13
- 14 - 15
- 16 - 17
- 18 - 19

