An investigation of mortality and cancer incidence in United Kingdom oil refinery workers, 1951 – 2011

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AN INVESTIGATION OF MORTALITY AND CANCER INCIDENCE IN UNITED KINGDOM OIL REFINERY WORKERS, 1951–2011

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1 INTRODUCTION

The EI has developed an epidemiological cohort study into the mortality and cancer morbidity experience of male employees from eight oil refineries in the UK (Rushton and Alderson, 1981; Rushton, 1993a; Sorahan et al, 2001a; Sorahan et al, 2002; Sorahan, 2007). A separate cohort study is also available for UK petroleum distribution workers (Sorahan et al, 2002; Sorahan, 2007; Rushton and Alderson, 1983; Rushton, 1993b, Sorahan et al, 2001b).

The original cohort comprised 34 569 oil refinery workers (Rushton, 1993a). All these male employees had a minimum period of employment of 12 months in the period 1950–75; some study subjects were first employed around the turn of the century. The cohort was re-defined in 1995 so that findings would be relevant to more recent work conditions, which can be described with some confidence (Sorahan et al, 2001a; Sorahan et al, 2002; Sorahan, 2007). The updated analyses are now limited to those 28 554 workers first employed after 1 January 1946. The new findings refer in the main to an entry cohort (workers first employed in the period 1950–74). The extent of any 'survivor population effect' present in the sub-cohort of workers first employed in the period 1946–49 was judged likely to be modest (such workers would only appear in the study if they remained ('survived') in the industry until 1 January 1951).

A further eight years of mortality and cancer registration data (2004–2011) were available for analysis in the overall period of follow-up (1951–2011). The objectives of the study were to summarise available mortality and cancer registration data and to determine whether any part of the mortality and morbidity experience of the cohort might be related to occupational exposures; in which event, further analyses capable of investigating the potential role of specific occupational exposures might be needed.