

The EURO CARE-4 database on cancer survival in Europe: data standardisation, quality control and methods of statistical analysis.

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This paper describes the collection, standardisation and checking of cancer survival data included in the EURO CARE-4 database. Methods for estimating relative survival are also described. Incidence and vital status data on newly diagnosed European cancer cases were received from 93 cancer registries in 23 countries, covering 151,400,000 people (35% of the participating country population). The third revision of the International Classification of Diseases for Oncology was used to specify tumour topography and morphology. Records were extensively checked for consistency and compatibility using multiple routines; flagged records were sent back for correction. An algorithm assigned standardised sequence numbers to multiple cancers. Only first malignant cancers were used to estimate relative survival from registry, year, sex and age-specific life tables. Age-adjusted and Europe-wide survival were also estimated. The database contains 13,814,573 cases diagnosed in 1978-2002; 92% malignant. A negligible proportion of records was excluded for major errors. Of 5,753,934 malignant adult cases diagnosed in 1995-2002, 5.3% were second or later cancers, 2.7% were known from death certificates only and 0.4% were discovered at autopsy. The remaining 5,278,670 cases entered the survival analyses, 90% of these had microscopic confirmation and 1.3% were censored alive after less than five years' follow-up. These indicators suggest satisfactory data quality that has improved since EURO CARE-3.