Provisional abstract EPC 2006

Theme:
D. Health, morbidity and mortality (convenor Jon Anson)

Title:
Transmission of Increased Familial Mortality Risk

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Research issue:
To what extent are persons whose parents died at a relatively early age running a significantly increased risk to die prematurely themselves? Which causes of death contribute to such an increased risk, and how large are their effects?

Background:
On the basis of epidemiological data, increased familial risk has been demonstrated for a variety of diseases. The extent of these effects however has, to the knowledge of the authors, never been demonstrated and quantified on the basis of linked (cause of) death records of parents and children.

Methodology and data:
1. About 70 thousand persons who died in the period 1995-2001 at the age of 20-54 years will be selected from computerized *death records*. This number includes all children who are native born of native parents. Foreigners are excluded as death records of their parents are not normally available. Data selected from the records are: sex, date of birth, date of death, cause of death, postal code and personal identification number (PIN).
2. By means of the personal identification number, the following additional information on these 'children' will be drawn from the digitalized *civil registration data* for the Netherlands: PIN father, PIN mother, date of birth father, date of birth mother.
3. Using the child's PIN, first all surviving parents are selected from the civil registration, starting with the year 1995. These surviving parents are matched with death records up to 2002, to exclude those who died subsequently.
4. All remaining deceased children have either one or two deceased parents. These parents are selected from *digitalized deaths records for the years 1937 onwards* and linked to their children by means of, successively, PIN parent and date of birth parent. Multiple matches for a single child may be further narrowed down, in case data are recorded on the spouse of the deceased parent. Data selected for parents are date of birth, date of death and cause of death. Information on cause of death will be recoded according to the ICD-classification used for their children.
5. Linked records of prematurely deceased children and parents will be classified by age of death and cause of death. Relative risks by cause of death will be established on the basis of relevant generation life tables.

Envisaged results:

This project will be carried out from December 2005 onwards. (First) results will be presented at the EPC2006. We expect to be able to quantify the (statistically) increased familial risk in the case of various cancers, myocardial infarction and possibly suicide. Up to present, a feasibility study has been carried out for a selection of records (death records for the city of Amsterdam, 2000), in order to examine the extent to which records of parents and children can be successfully matched. The results of this feasibility study are encouraging.