Cohort Profile

Cohort Profile: The Social Inequality in Cancer (SIC) cohort study

Helene Nordahl,¹,2* Ulla Arthur Hvidtfeldt,¹ Finn Diderichsen,¹ Naja Hulvej Rod,¹ Merete Osler,¹,2 Birgitte Lidegaard Frederiksen,²,3 Eva Prescott,⁴,5 Anne Tjønneland,⁶ Theis Lange,⁷ Niels Keiding,⁷ Per Kragh Andersen⁷ and Ingelise Andersen¹

¹Department of Public Health, Section of Social Medicine, University of Copenhagen, Copenhagen, Denmark, ²Research Centre for Prevention and Health, Glostrup University Hospital, Glostrup, Denmark, ³Clinical Research Centre, Hvidovre University Hospital, Hvidovre, Denmark, ⁴Department of Cardiology, Bispebjerg University Hospital, Copenhagen, Denmark, ⁵Copenhagen City Heart Study, Frederiksberg University Hospital, Copenhagen, Denmark, ⁶Danish Cancer Society Research Centre, Copenhagen, Denmark and ⁷Department of Public Health, Section of Biostatistics, University of Copenhagen, Copenhagen, Denmark

*Corresponding author. Department of Public Health, Section of Social Medicine, University of Copenhagen, Øster Farimagsgade 5A, 1014 Copenhagen, Denmark. E-mail: henor@sund.ku.dk

Accepted 7 January 2014

Abstract

The Social Inequality in Cancer (SIC) cohort study was established to determine pathways through which socioeconomic position affects morbidity and mortality, in particular common subtypes of cancer. Data from seven well-established cohort studies from Denmark were pooled. Combining these cohorts provided a unique opportunity to generate a large study population with long follow-up and sufficient statistical power to develop and apply new methods for quantification of the two basic mechanisms underlying social inequalities in cancer—mediation and interaction. The SIC cohort included 83,006 participants aged 20–98 years at baseline. A wide range of behavioural and biological risk factors such as smoking, physical inactivity, alcohol intake, hormone replacement therapy, body mass index, blood pressure and serum cholesterol were assessed by self-administered questionnaires, physical examinations and blood samples. All participants were followed up in nationwide demographic and healthcare registries. For those interested in collaboration, further details can be obtained by contacting the Steering Committee at the Department of Public Health, University of Copenhagen, at inan@sund.ku.dk.

Key words: cohort consortium, data pooling, data harmonization, cancer, social inequality, health related risk factors
Why was the cohort set up?
Cancer is the leading cause of death in Denmark (30% of all deaths in 2011) and seems to contribute to the pattern of social inequalities in health in Denmark.1 Exactly how the social gradient is related to different types of cancer is not fully elucidated and different cancer sites show markedly different social gradients.2–4 Lung, stomach and rectal cancer are typically more common in lower socioeconomic groups,3,5–8 whereas breast and colon cancer have the opposite social gradient.9 The social direction of breast cancer seems, however, to be in transition.10 The pathways through which socioeconomic position affects morbidity and mortality of different cancers are not fully understood.

It is well known that health related risk factors such as smoking and obesity tend to cluster in lower socioeconomic groups.11–14 These differential exposures to risk factors across socioeconomic groups have been shown to contribute to social inequality in health.1 Consequently, people in lower socioeconomic groups are expected to be exposed to a number of risk factors acting as intermediate variables of the association between, for example, socioeconomic position and cancer. A further possibility might be that the risk factors interact with each other and socioeconomic position, and probably do so differently for different types of cancer.15

The Social Inequality in Cancer (SIC) cohort study was established by pooling prospective data from several well-established cohort studies. This cohort consortium provided a large study population with a wide age distribution and long follow-up time, generating sufficient statistical power to investigate mechanisms in social inequalities even in less common outcomes, to perform subset analyses in different sex and age strata as well as providing the power to study questions of mediation and interaction. The specific research topics for the pooled SIC cohort were:

• Identify mediators of the relationship between socioeconomic position and cancer
• Develop methods for quantifying direct and indirect effects in survival analyses
• Improve methods for mediation analysis when two mediators interact
• Develop methods to measure interaction between causes understood as departure from additivity of absolute effects.

Increased knowledge about the mechanisms and improved ability to quantify the pathways might help us to develop new strategies and priorities to reduce social inequalities in cancer. Even though cancer was the initial focus of the SIC cohort, it has been used to estimate mechanisms generating inequalities in other common outcomes such as cardiovascular diseases and cause-specific mortality. A steering committee of primary investigators from the seven cohorts, biostatisticians and epidemiologists from the University of Copenhagen was established to assist with the activities of the SIC cohort.

Who is in the cohort?
To establish a large study population with a wide age distribution and long follow-up, the SIC cohort was

Key Messages
This Social Inequality in Cancer cohort study combines prospective data from several existing cohorts. It is important for the following reasons.

• It generates a large population sample of men and women with a wide age distribution, long follow-up and sufficient statistical power to develop new straightforward and intuitive methods that quantify two basic mechanisms underlying social inequalities in cancer: mediation and interaction.
• Applying the new methods for analysis of mediation and interaction can provide estimations of the absolute numbers of cancer cases potentially preventable when modifying specific health related risk factors. Evaluation of such absolute effects is important to guide public health interventions and policy making to tackle social inequalities in cancer.
• Markedly higher cancer mortality rates have been found in men and women with low educational attainment compared with high educational attainment. The results indicated that a considerable part of the educational difference in cancer mortality was explained by the fact that there was a higher smoking prevalence among the low-educated (differential exposure). Additionally, the results suggested that the consequences of being a smoker were worse among the low-educated than among the high-educated, possibly due to differential vulnerability.
• Among postmenopausal women, higher excess breast cancer cases have been observed in those with high educational attainment compared with low educational attainment. This difference was primarily mediated through alcohol consumption, parity, age at first child’s birth and hormone therapy use.
established by pooling data from already existing cohorts. The inclusion criteria for enrolment in the SIC cohort were: a population-based study from Denmark with data on behavioural and biological risk factors for sub-types of cancer and other common outcomes (i.e. cardiovascular diseases); and a baseline examination after 1980, since socioeconomic information drawn from the central registries was only available after January 1980. The following seven cohort studies met these criteria:

The longitudinal population-based study named the Copenhagen City Heart Study (CCHS)\(^{19}\) was initiated in 1976. An age-stratified sample of men and women aged 20–93 years, from a defined area of central Copenhagen, participated in the study. At subsequent waves of the study in 1981–83, 1991–93 and 2001–03, all survivors from the original sample and a number of new individuals were invited. The SIC cohort included 12 698 participants from the second wave (1981–83) of the CCHS.\(^{20}\)

Since 1964, the Research Centre for Prevention and Health has followed different birth cohorts in the population from selected western suburbs of Copenhagen.\(^ {21}\) In the SIC cohort we included the three Danish WHO MONICA investigations\(^ {22}\) with samples of 30-, 40-, 50- and 60-year-old men and women (MONICA I in 1982–84 (\(n=3785\)), MONICA II in 1986–87 (\(n=1504\)) and MONICA III in 1991–92 (\(n=2027\))). We also included the second wave of the 1936 cohort in which participants were examined at age 45 years in 1981–82 (\(n=992\)). Furthermore, participants from the INTER99 Study\(^ {23}\) aged 30, 35, 40, 45, 50, 55 and 60 years, examined in 1999–2001 (\(n=6784\)) were also included in the SIC cohort.

In 1993–97 the prospective cohort study Diet, Cancer and Health (DCH)\(^ {24}\) was initiated. From this cohort we included a total of 57 053 participants, 50–64 years of age, living in Copenhagen or Aarhus.

In all these seven studies, participants were randomly selected using the Danish Central Population Registry, within age groups and areas of Copenhagen and Aarhus. Mean participation rate was 63% (36–79%). Detailed descriptions of the studies have been published previously,\(^ {19,21,24-25}\)

Although the Diet, Cancer and Health study alone contributes 70% of the participants enrolled in the SIC cohort, the cohort consortium adds not only \(~30\,000\) participants, but also a much wider age and social distribution and longer follow-up (e.g. \(~350\,000\) person-years at risk of all-cause mortality). In total the SIC cohort included 83 006 participants (52% women) between 20 and 93 years of age, with baseline examination from 1981 through 2001. Figure 1 presents the original number of participants and year of baseline- and re-examination for each of the seven cohort studies.

**How often have they been followed up?**

The Central Population Registry provides every citizen in Denmark with a unique 10-digit number for personal identification. This unique personal identification number is the key to participants in the SIC cohort and linkage of data from a large number of nationwide registries. All the participants included in the SIC cohort have been followed by linkage to at present five registries (Figure 2): (i) the Central Population Registry which contains information on date of birth, vital status, citizenship, and address; (ii) the Danish National Registry of Patients with information about procedures received at hospital and discharge

---

**Figure 1.** Cohorts (numbers) forming the Social Inequality in Cancer Cohort Study.

CCHS, Copenhagen City Heart Study; MONICA (I, II, III), multinational MONItoring of trends and determinants in CARdiovascular disease; DCH, Diet Cancer and Health study; INTER99, randomized non-pharmaceutical INTERvention study for prevention of ischaemic heart disease.
diagnoses; (iii) the National Cancer Registry with information on the type and location of incident cases of cancer; (iv) the Cause of Death Registry for cause-specific mortality; and (v) the Registry of Medicinal Product Statistics with information on all prescribed medication picked up at Danish pharmacies. Furthermore, yearly individual data on a large number of socioeconomic indicators such as highest attained education, disposable income, gross and equivalent income, affiliation to the labour market and occupation can be achieved by linkage to the Integrated Database for Labour Market Research.

Apart from the MONICA II and III studies, all cohorts have been followed up by at least one re-examination (Figure 1). Data from the re-examinations have not yet been harmonized and linked to the SIC cohort. However, it is planned to initiate this longitudinal design in near future.

What has been measured?

For all participants in the SIC cohort, information about behavioural and biological factors such as smoking, physical activity, alcohol intake, hormone therapy, parity, height, weight, blood pressure and serum cholesterol have been collected by self-administered questionnaires, physical examinations and blood samples. The harmonization of behavioural and biological measures was established through a series of consensus meetings bringing together researchers from the steering committee with expertise in using data from the included cohort studies. The retrospective harmonization of the already collected data was based upon flexible procedures, which involved several steps. First, a selected list of core variables was generated to provide the basis for the harmonization. Second, agreed selection criteria were defined and used to select broad domains of variables and subsequently more specific variables. These criteria included: (i) the selected variable must be either a behavioural or biological factor related to the risk of at least one of the four selected sub-types of cancer (breast, lung, colon and rectum cancer) or cardiovascular diseases; (ii) although the phrasing of questions may differ in the various cohorts, sufficient consistency in the synthesized dataset must be maintained; and (iii) iterative rounds of discussion and generation of formal pairing rules to create each variable contributed to gradual refinement of the harmonized variables in the SIC cohort. A detailed list of the harmonized measures and information on whether these have been collected across cohorts are presented in Table 1. As presented in Table 2, the distribution of the harmonized measures (e.g. smokers, high alcohol intake, obesity and sedentary leisure time) do vary across the time period of data collection in the different cohorts. For example, the smoking rates among men varied from 63% in CCHS (baseline year 1981–83) to 36% in the INTER99 (1999–2001).

What has been found? Key findings and publications

During the preparation of the SIC cohort in 2011, important work on developing methods for mediation and interaction analysis in a survival setting was initiated by Lange...
et al.27,28 and Rod et al.29 These contemporary methods have been applied in the SIC cohort, thereby taking advantage of the large dataset and sufficient statistical power. A growing interest in mechanisms behind socioeconomic inequalities in health1,30 led us to quantify the mediating and interacting effects of modifiable health-related risk factors on social gradients in common chronic disease outcomes like sub-types of cancer, cardiovascular diseases and cause-specific mortality. In Figure 3, selected results from the different studies based on the SIC cohort are presented showing social inequality in cause-specific mortality, incidence of coronary heart disease and breast cancer when comparing low vs high educational level and the proportion mediated through smoking, alcohol, physical activity and body mass index (BMI).

One study31 investigated the mediating role of behavioural risk factors in the educational gradients of breast cancer. The results showed that a substantial number of the excess postmenopausal breast cancer events among women (>50 years of age) with high education compared with low education could be attributed to differences in alcohol intake, use of hormone therapy and reproductive patterns.

### Table 1. List of harmonized measures and the extent to which these measures have been collected across cohorts

<table>
<thead>
<tr>
<th>Harmonized measures</th>
<th>MONICA I</th>
<th>MONICA II</th>
<th>MONICA III</th>
<th>1936-cohort</th>
<th>INTER99</th>
<th>CCHS</th>
<th>DCH</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Questionnaire data</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age at birth of first child</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alcohol intake (drinks/week)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Type <em>(beer, wine etc.)</em></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Breastfeeding (yes/no)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Breastfeeding duration</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Diabetes (yes/no)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Diet</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Type <em>(meat, fruit etc.)</em></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Family history of acute myocardial infarction</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Family history of cancer</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Hormone therapy (yes/no)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Hormone therapy duration</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Smoking (never, former, current)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Grams tobacco/day</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Type <em>(cigarette, cigar etc.)</em></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Inhalation (yes/no)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Age at initiation</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Age at cessation</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Oral contraceptives (yes/no)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Parity</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Physical activity in leisure time (h/week)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Type <em>(running, swimming etc.)</em></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Blood sample</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blood glucose</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Cholesterol: high-density lipoprotein</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Cholesterol: low-density lipoprotein</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Cholesterol: total</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Triglycerides</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Health examination</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blood pressure: diastolic</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Blood pressure: systolic</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Circumference: hip</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Circumference: waist</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Height</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Weight</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

CCHS, Copenhagen City Heart Study; MONICA (I, II, III), multinational MONItoring of trends and determinants in CArdiovascular disease; DCH, Diet Cancer and Health study; INTER99, randomized non-pharmacological INTERvention study for prevention of ischaemic heart disease.

*Only lung cancer.

*Non-fasting.
A study on educational inequality in cancer mortality\textsuperscript{32} showed that a considerable part of the mediating role of smoking was due to both differential exposure to smoking (i.e. more smokers among people with low vs high education) and differential vulnerability (i.e. an education-by-smoking interaction). The results indicated that both men and women with low education appeared to be more vulnerable to the effects of smoking than those with high education. In subsequent analyses, less clear patterns of mediated effects were found for other behavioural risk factors including alcohol intake, physical activity and BMI.

In another study,\textsuperscript{33} a partial mediating role of smoking and BMI on educational gradients in risk of coronary heart disease was found.

In all the summarized studies, sensitivity analyses were conducted to investigate heterogeneity between study-specific effects by including an interaction term between educational level and cohort study. Also, pooled estimates were compared by systematically removing each individual study.
one at a time to confirm that no single study strongly influenced the pooled estimates. The results indicated that the pooled estimates can be considered appropriate summaries of the study-specific data, since removing one individual study at a time did not affect the risk estimates.

What are the main strengths and weaknesses?

The SIC cohort consists of prospective data from several well-established cohort studies in which participants were randomly selected from within age groups and defined areas of Copenhagen and Aarhus. Thus, this cohort consortium provides a large study population with a wide age and social distribution and long follow-up time generating sufficient statistical power to investigate mechanisms underlying social inequalities in cancer. The linkage to high-quality data from central and administrative registries gives access to nearly complete follow-up, as well as detailed individual information on socioeconomic position measured yearly and by several indicators.

Some methodological challenges evolved from the pooling of these different cohorts. The underlying pooling assumptions about homogeneity across study populations and follow-up periods are unlikely to be completely satisfied. Due to varying onset of baseline (from 1981 to 2001) in the cohorts enrolled in the SIC cohort, there are reasons to assume some systematic variation in the measurements across the different cohorts. For example, the general population, especially women, have been better educated over time. Thus, 11 years of education would be relatively high for the oldest women in CCHS whereas, for the youngest women in INTER99, 11 years might be considered low. To carefully consider this weakness, all studies based on the SIC cohort should at least conduct sensitivity analyses of the heterogeneity between study-specific effects by including an interaction term between educational level and cohort study.

Another weakness is that we have not harmonized the repeated measures of health-related factors. With the long follow-up time, many participants enrolled in the early cohorts (for example in CCHS, baseline year 1981–83) might have quit smoking along the way—especially among those with a high education, as smoking cessation follows a social gradient. To overcome this weakness, we have planned a longitudinal design for the SIC cohort by harmonizing and linking data from the re-examinations of the different cohorts in near future.

Other study-related factors such as the use of different self-administered questionnaires, where phrasing of questions and time periods of responses varied between the different cohorts, might have influenced the potential for synthesis and full characterization of all multiple versions of the health-related risk factors. This might have resulted in some imprecision of the measurements. To face this challenge we have planned to initiate the development of standard methods and procedures for sensitivity analysis of misclassification of intermediate variables in the additive hazards model.

Bias due to initial non-participation is a major potential limitation of any population-based study. In general, previous studies of participation in the cohort studies enrolled in the SIC cohort have shown that rates of participation have declined over time, were slightly higher among women than among men, decreased slightly with increasing age and tended to be higher among people with high educational attainment than among those with low educational attainment. Furthermore, non-participants had a higher mortality than participants. As participants seemed to be healthier than non-participants and lower socioeconomic groups were underrepresented, generalization of results for participants to the whole population should be made with caution.

Future implications for research based on the SIC cohort are indicated by the possibility of obtaining register data on descendants, which would enable thorough investigations of family disposition for conditions such as breast cancer and cardiovascular diseases. The retrospective harmonization procedure of already collected data on numerous behavioural and biological factors relating to each participant from different cohorts makes it possible to cover a 30-year period studying the impact of trajectories of these modifiable risk factors. Additionally, it will be possible to link other sub-populations to the SIC cohort. For example, the Copenhagen School Health Record Register35 with information on approximately 350,000 children from Copenhagen born between 1930 and 1983 could be linked to the SIC cohort and thus make life-course epidemiology possible. Furthermore, the re-examination in five of the seven cohorts included in the SIC cohort opens a unique potential for also establishing a longitudinal design within the cohort.

Can I get hold of the data? Where can I find out more?

The SIC investigators welcome collaboration on specific projects. Further details of the SIC cohort can be obtained by contacting the steering committee at the Department of Public Health, University of Copenhagen, at: inan@sund.ku.dk.

Funding

This work was supported by the Danish Cancer Society, Commission of Social Inequality in Cancer [grant number SU08004].
Acknowledgements

We thank the collaborators behind the Social Inequality in Cancer cohort study; the Copenhagen City Heart Study; the Diet, Cancer and Health Study; and the cohorts at the Research Center for Prevention and Health.

Conflict of interest: None declared.

References


effects through health behaviors, body mass index and reproductive patterns. PLoS One 2013;e1–8.


