Health effects associated with smoking: a Burden of Proof study

In the format provided by the authors and unedited
Supplementary Information: data sources and supplementary results for “Health effects associated with smoking: a Burden of Proof study”

This appendix provides detailed information on input data sources and supplementary results for “Health effects associated with smoking: a Burden of Proof study.”

Table of Contents

Section 1: Data source identification and assessment ................................................................. 2
Section 2: Data inputs .................................................................................................................... 44
Section 3: Study quality & bias assessment ................................................................................. 172
Section 4: The dose-response RR curves and their 95% uncertainty interval for all smoking-outcome pairs ...... 193
Section 5: Supplementary methods ............................................................................................. 202
Section 6: Sensitivity analysis ....................................................................................................... 211
Section 7: Binary smoking-outcome pair (i.e., smoking-fracture) .................................................. 230
Section 8: Risk curve details ........................................................................................................ 232
Section 9: GATHER and PRISMA checklists .............................................................................. 295
Section 1: Data source identification and assessment
The data in this systematic review includes effect sizes from cohort studies and case-control studies. Age-stratified effect sizes from cross-sectional studies were used to inform age-attenuated curves for cardiovascular outcomes. More detailed information on the data is available at http://vizhub.healthdata.org/burden-of-proof/.

Section 1.1: Literature studies
We conducted literature searches to obtain input data on the relationship between current smoking behavior and our 36 target outcomes. We also searched the citation lists of systematic reviews identified during the literature searches to identify primary research articles that may not have been captured with the original search string.

Section 1.1.1: PubMed search
Literature search updates were performed on PubMed on 6/21/2019, 7/2/2019-7/18/2019 and captured studies published since the previous literature search up to 5/1/2019. Another update was conducted in June 2022, capturing studies from 5/1/2019 through 31/5/2022.

Section 1.1.2: Search strings
Subarachnoid Hemorrhage

("Smoking"[Mesh] OR "smoking"[tiab]) AND ("Subarachnoid Hemorrhage"[Mesh] OR "subarachnoid hemorrhage"[tiab] OR "sah"[tiab]) AND ("Risk"[Mesh] OR "relative risk"[tiab] OR "hazard ratio"[tiab] OR "odds ratio"[tiab] OR "rate"[tiab] OR "risk"[tiab]) AND ("Cohort Studies"[Mesh] OR "Prospective Studies"[Mesh] OR "Cohort"[tiab] OR "prospective"[tiab] OR "longitudinal"[tiab] OR "case-control"[tiab] OR "case control"[tiab] OR "case-crossover"[tiab]) AND ("2018/05/01"[PDAT] : "2022/05/31"[PDAT]) NOT (animals[MeSH] NOT humans[MeSH])

Stroke

("Smoking"[Mesh] OR "smoking"[tiab]) AND ("Stroke"[Mesh] OR "stroke"[tiab] OR "cva"[tiab] OR "cerebrovascular"[tiab] OR "hemorrhage"[tiab] OR "haemorrhage"[tiab] OR "aneurism"[tiab] OR "aneurysm"[tiab]) AND ("Risk"[Mesh] OR "relative risk"[tiab] OR "hazard ratio"[tiab] OR "odds ratio"[tiab] OR "rate"[tiab] OR "risk"[tiab]) AND ("Cohort Studies"[Mesh] OR "Prospective Studies"[Mesh] OR "Cohort"[tiab] OR "prospective"[tiab] OR "longitudinal"[tiab] OR "case-control"[tiab] OR "case control"[tiab] OR "case-crossover"[tiab]) AND ("2018/05/01"[PDAT] : "2022/05/31"[PDAT]) NOT (animals[MeSH] NOT humans[MeSH])

Atrial Fibrillation and Flutter

("Smoking"[Mesh] OR "smoking"[tiab]) AND ("Atrial Fibrillation"[Mesh] OR "Atrial Flutter"[Mesh] OR "atrial fibrillation"[tiab] OR "atrial flutter"[tiab]) AND ("Risk"[Mesh] OR "relative risk"[tiab] OR "hazard ratio"[tiab] OR "odds ratio"[tiab] OR "rate"[tiab] OR "risk"[tiab]) AND ("Cohort Studies"[Mesh] OR "Prospective Studies"[Mesh] OR "Cohort"[tiab] OR "prospective"[tiab] OR "longitudinal"[tiab] OR "Case-Control Studies"[Mesh] OR "case-control"[tiab] OR "case control"[tiab] OR "case-crossover"[tiab]) AND ("2018/05/01"[PDAT] : "2022/05/31"[PDAT]) NOT (animals[MeSH] NOT humans[MeSH])

Diabetes

("Smoking"[Mesh] OR "smoking"[tiab]) AND ("Diabetes Mellitus, Type 1"[Mesh] OR "Diabetes Mellitus, Type 2"[Mesh] OR "diabetes"[ti]) AND ("Risk"[Mesh] OR "relative risk"[tiab] OR "hazard ratio"[tiab] OR "odds ratio"[tiab] OR "rate"[tiab] OR "risk"[tiab]) AND ("Cohort Studies"[Mesh] OR "Prospective Studies"[Mesh] OR "Cohort"[tiab] OR "prospective"[tiab] OR "longitudinal"[tiab] OR "Case-Control Studies"[Mesh] OR "case-control"[tiab] OR "case control"[tiab] OR "case-crossover"[tiab]) AND ("2018/05/01"[PDAT] : "2022/05/31"[PDAT]) NOT (animals[MeSH] NOT humans[MeSH])

Lower respiratory infections
("Smoking"[Mesh] OR "smoking"[tiab]) AND ("respiratory tract infections"[MeSH] OR "lower respiratory"[tiab] OR "pneumonia"[tiab] OR "bronchiolitis"[tiab]) AND ("Risk"[Mesh] OR "relative risk"[tiab] OR "hazard ratio"[tiab] OR "odds ratio"[tiab] OR "rate"[tiab] OR "risk"[tiab]) AND ("Cohort Studies"[Mesh] OR "Prospective Studies"[Mesh] OR "Cohort"[tiab] OR "prospective"[tiab] OR "longitudinal"[tiab] OR "Case-Control Studies"[Mesh] OR "case-control"[tiab] OR "case control"[tiab] OR "case-crossover"[tiab]) AND ("2018/05/01"[PDAT] : "2022/05/31"[PDAT]) NOT (animals[MeSH] NOT humans[MeSH])

**Low back pain**

("Smoking"[Mesh] OR "smoking"[tiab]) AND ("Low Back Pain"[Mesh] OR "low back pain"[tiab]) AND ("Risk"[Mesh] OR "relative risk"[tiab] OR "hazard ratio"[tiab] OR "odds ratio"[tiab] OR "rate"[tiab] OR "risk"[tiab]) AND ("Cohort Studies"[Mesh] OR "Prospective Studies"[Mesh] OR "Cohort"[tiab] OR "prospective"[tiab] OR "longitudinal"[tiab] OR "Case-Control Studies"[Mesh] OR "case-control"[tiab] OR "case control"[tiab] OR "case-crossover"[tiab]) AND ("2018/05/01"[PDAT] : "2022/05/31"[PDAT]) NOT (animals[MeSH] NOT humans[MeSH])

**Parkinson’s disease**

("Smoking"[Mesh] OR "smoking"[tiab]) AND ("Parkinson Disease"[Mesh] OR "parkinson"[tiab]) AND ("Risk"[Mesh] OR "relative risk"[tiab] OR "hazard ratio"[tiab] OR "odds ratio"[tiab] OR "rate"[tiab] OR "risk"[tiab]) AND ("Cohort Studies"[Mesh] OR "Prospective Studies"[Mesh] OR "Cohort"[tiab] OR "prospective"[tiab] OR "longitudinal"[tiab] OR "Case-Control Studies"[Mesh] OR "case-control"[tiab] OR "case control"[tiab] OR "case-crossover"[tiab]) AND ("2018/05/01"[PDAT] : "2022/05/31"[PDAT]) NOT (animals[MeSH] NOT humans[MeSH])

**Macular degeneration**

("Smoking"[Mesh] OR "smoking"[tiab]) AND ("Macular Degeneration"[Mesh] OR "macular degeneration"[tiab]) AND ("Risk"[Mesh] OR "relative risk"[tiab] OR "hazard ratio"[tiab] OR "odds ratio"[tiab] OR "rate"[tiab] OR "risk"[tiab]) AND ("Cohort Studies"[Mesh] OR "Prospective Studies"[Mesh] OR "Cohort"[tiab] OR "prospective"[tiab] OR "longitudinal"[tiab] OR "Case-Control Studies"[Mesh] OR "case-control"[tiab] OR "case control"[tiab] OR "case-crossover"[tiab]) AND ("2018/05/01"[PDAT] : "2022/05/31"[PDAT]) NOT (animals[MeSH] NOT humans[MeSH])

**Multiple sclerosis**

("Smoking"[Mesh] OR "smoking"[tiab]) AND ("Multiple Sclerosis"[Mesh] OR "multiple sclerosis"[tiab]) AND ("Risk"[Mesh] OR "relative risk"[tiab] OR "hazard ratio"[tiab] OR "odds ratio"[tiab] OR "rate"[tiab] OR "risk"[tiab]) AND ("Cohort Studies"[Mesh] OR "Prospective Studies"[Mesh] OR "Cohort"[tiab] OR "prospective"[tiab] OR "longitudinal"[tiab] OR "Case-Control Studies"[Mesh] OR "case-control"[tiab] OR "case control"[tiab] OR "case-crossover"[tiab]) AND ("2018/05/01"[PDAT] : "2022/05/31"[PDAT]) NOT (animals[MeSH] NOT humans[MeSH])

**Rheumatoid arthritis**

("Smoking"[Mesh] OR "smoking"[tiab]) AND ("Arthritis, Rheumatoid"[Mesh] OR "rheumatoid"[tiab] OR "caplan syndrome"[tiab] OR "felty syndrome"[tiab] OR "sjogren"[tiab] OR "still's disease"[tiab]) AND ("Risk"[Mesh] OR "relative risk"[tiab] OR "hazard ratio"[tiab] OR "odds ratio"[tiab] OR "rate"[tiab] OR "risk"[tiab]) AND ("Cohort Studies"[Mesh] OR "Prospective Studies"[Mesh] OR "Cohort"[tiab] OR "prospective"[tiab] OR "longitudinal"[tiab] OR "Case-Control Studies"[Mesh] OR "case-control"[tiab] OR "case control"[tiab] OR "case-crossover"[tiab]) AND ("2018/05/01"[PDAT] : "2022/05/31"[PDAT]) NOT (animals[MeSH] NOT humans[MeSH])

**Peptic ulcer disease**

("Smoking"[Mesh] OR "smoking"[tiab]) AND ("Peptic Ulcer"[Mesh] OR "peptic ulcer"[tiab] OR "stomach ulcer"[tiab]) AND ("Risk"[Mesh] OR "relative risk"[tiab] OR "hazard ratio"[tiab] OR "odds ratio"[tiab] OR "rate"[tiab] OR "risk"[tiab]) AND ("Cohort Studies"[Mesh] OR "Prospective Studies"[Mesh] OR "Cohort"[tiab] OR "prospective"[tiab] OR "longitudinal"[tiab] OR "Case-Control Studies"[Mesh] OR "case-control"[tiab] OR "case control"[tiab] OR "case-crossover"[tiab]) AND ("2018/05/01"[PDAT] : "2022/05/31"[PDAT]) NOT (animals[MeSH] NOT humans[MeSH])
("rate"[tiab] OR "risk"[tiab]) AND ("Cohort Studies"[Mesh] OR "Prospective Studies"[Mesh] OR "Cohort"[tiab] OR "prospective"[tiab] OR "longitudinal"[tiab] OR "Case-Control Studies"[Mesh] OR "case-control"[tiab] OR "case control"[tiab] OR "case-crossover"[tiab]) AND ("2018/05/01"[PDAT] : "2022/05/31"[PDAT]) NOT (animals[MeSH] NOT humans[MeSH])

Ischemic heart disease

("Smoking"[Mesh] OR "smoking"[tiab]) AND ("Myocardial Ischemia"[Mesh] OR "heart disease"[tiab] OR "coronary"[tiab] OR "myocardial infarction"[tiab] OR "heart attack"[tiab] OR "heart disease"[tiab]) AND ("Risk"[Mesh] OR "relative risk"[tiab] OR "hazard ratio"[tiab] OR "odds ratio"[tiab] OR "rate"[tiab] OR "risk"[tiab]) AND ("Cohort Studies"[Mesh] OR "Prospective Studies"[Mesh] OR "Cohort"[tiab] OR "prospective"[tiab] OR "longitudinal"[tiab] OR "Case-Control Studies"[Mesh] OR "case-control"[tiab] OR "case control"[tiab] OR "case-crossover"[tiab]) AND ("2018/05/01"[PDAT] : "2022/05/31"[PDAT]) NOT (animals[MeSH] NOT humans[MeSH])

Tuberculosis

("Smoking"[Mesh] OR "smoking"[tiab]) AND ("Tuberculosis"[Mesh] OR "tuberculosis"[tiab] OR "TB"[tiab]) AND ("Risk"[Mesh] OR "relative risk"[tiab] OR "hazard ratio"[tiab] OR "odds ratio"[tiab] OR "rate"[tiab] OR "risk"[tiab]) AND ("Cohort Studies"[Mesh] OR "Prospective Studies"[Mesh] OR "Cohort"[tiab] OR "prospective"[tiab] OR "longitudinal"[tiab] OR "Case-Control Studies"[Mesh] OR "case-control"[tiab] OR "case control"[tiab] OR "case-crossover"[tiab]) AND ("2018/05/01"[PDAT] : "2022/05/31"[PDAT]) NOT (animals[MeSH] NOT humans[MeSH])

Gallbladder

("Smoking"[Mesh] OR "smoking"[tiab]) AND ("Biliary Tract Diseases"[Mesh] OR "gallbladder"[tiab] OR "biliary"[tiab]) AND ("Risk"[Mesh] OR "relative risk"[tiab] OR "hazard ratio"[tiab] OR "odds ratio"[tiab] OR "rate"[tiab] OR "risk"[tiab]) AND ("Cohort Studies"[Mesh] OR "Prospective Studies"[Mesh] OR "Cohort"[tiab] OR "prospective"[tiab] OR "longitudinal"[tiab] OR "Case-Control Studies"[Mesh] OR "case-control"[tiab] OR "case control"[tiab] OR "case-crossover"[tiab]) AND ("2018/05/01"[PDAT] : "2022/05/31"[PDAT]) NOT (animals[MeSH] NOT humans[MeSH])

Fractures

("Smoking"[Mesh] OR "smoking"[tiab]) AND ("Fractures, Bone"[Mesh] OR "fracture"[tiab]) AND ("Risk"[Mesh] OR "relative risk"[tiab] OR "hazard ratio"[tiab] OR "odds ratio"[tiab] OR "rate"[tiab] OR "risk"[tiab]) AND ("Cohort Studies"[Mesh] OR "Prospective Studies"[Mesh] OR "Cohort"[tiab] OR "prospective"[tiab] OR "longitudinal"[tiab] OR "Case-Control Studies"[Mesh] OR "case-control"[tiab] OR "case control"[tiab] OR "case-crossover"[tiab]) AND ("2018/05/01"[PDAT] : "2022/05/31"[PDAT]) NOT (animals[MeSH] NOT humans[MeSH])

Dementia

("Smoking"[Mesh] OR "smoking"[tiab]) AND ("Dementia"[Mesh] OR "dementia"[tiab] OR "alzheimer"[tiab] OR "huntington"[tiab] OR "kluver-bucy"[tiab] OR "lewy body"[tiab] OR "creutzfeldt-jakob"[tiab] OR "aphasia"[tiab]) AND ("Risk"[Mesh] OR "relative risk"[tiab] OR "hazard ratio"[tiab] OR "odds ratio"[tiab] OR "rate"[tiab] OR "risk"[tiab]) AND ("Cohort Studies"[Mesh] OR "Prospective Studies"[Mesh] OR "Cohort"[tiab] OR "prospective"[tiab] OR "longitudinal"[tiab] OR "Case-Control Studies"[Mesh] OR "case-control"[tiab] OR "case control"[tiab] OR "case-crossover"[tiab]) AND ("2018/05/01"[PDAT] : "2022/05/31"[PDAT]) NOT (animals[MeSH] NOT humans[MeSH])

Chronic obstructive pulmonary disease

("Smoking"[Mesh] OR "smoking"[tiab]) AND ("Pulmonary Disease, Chronic Obstructive"[Mesh] OR "COPD"[tiab] OR "emphysema"[tiab] OR "chronic obstructive pulmonary disease"[tiab]) AND ("Risk"[Mesh] OR "relative risk"[tiab] OR "hazard ratio"[tiab] OR "odds ratio"[tiab] OR "rate"[tiab] OR "risk"[tiab]) AND ("Cohort
Section 1.2: Inclusion & Exclusion criteria

Of those articles captured by each search string, prospective cohort and case-control studies were included if they reported the effect sizes (relative risk, hazard ratio, or odds ratio) of an association between a continuous or categorical dose for smoked tobacco consumption and a GBD outcome with uncertainty. Studies were excluded if they used cross-sectional or retrospective cohort design or if the study was conducted among specific high-risk populations (e.g., people with diabetes or drug users, etc.). For systematic review studies, we extracted data from each underlying study unless data extraction from the underlying studies was not possible, in which case we extracted the pooled estimates from the systematic review.

Section 1.3: Outcome definitions

Table 1: Definitions of 36 included outcomes

| Cause Name                               | Definition                                                                                                                                 |
|------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Alzheimer's disease and related dementias| Dementia is a progressive, degenerative, and chronic neurological disorder typified by cognitive dysfunctions that interfere with daily functioning. We use the Diagnostic and Statistical Manual of Mental Disorders III, IV, or V, or ICD case definitions as the reference. |
| Condition                          | Description                                                                                                                                                                                                 |
|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Aortic aneurysm                  | Full-thickness dilation of the aorta, usually due to atherosclerosis, elevated blood pressure, or inflammation of the blood vessel.                                                                            |
| Asthma                           | The onset of asthma as measured by a reported doctor's diagnosis and wheezing in the past 12 months.                                                                                                          |
| Atrial fibrillation and flutter  | Diagnosis based on ECG findings, including: 1) irregularly irregular RR intervals (in the absence of complete atrio-ventricular block); 2) no distinct P waves on the surface ECG, and; 3) an atrial cycle length (when visible) that is usually variable and less than 200 milliseconds. |
| Bladder cancer                   | Malignant neoplasm of the bladder                                                                                                                                                                           |
| Breast cancer                    | Malignant neoplasm of the breast                                                                                                                                                                           |
| Cataracts                        | Blindness (acuity in the better eye of <3/60 or <10% visual field around central fixation point) from cataract. Presenting vision is measured using any corrective lenses currently in use.                         |
| Cervical cancer                  | Malignant neoplasm of the cervix                                                                                                                                                                            |
| Colorectal cancer                | Malignant neoplasm of the colon and rectum                                                                                                                                                                  |
| COPD                             | Cases diagnosed based on GOLD criteria, i.e. spirometry results of FEV1/FVC <0.7 post-bronchodilator.                                                                                                         |
| Esophageal cancer                | Malignant neoplasm of the esophagus                                                                                                                                                                          |
| Fracture                         | Hip or non-hip bone fractures related to ICD N-codes                                                                                                                                                        |
| Gallbladder diseases             | Inflammation of the gallbladder and/or bile duct identified through ultrasound diagnosis.                                                                                                                     |
| Ischemic heart disease           | Acute myocardial infarction (MI): definite and possible MI according to the third universal definition of myocardial infarction; includes recurrent cases and cases who died before reaching medical care |
| Kidney cancer                    | Malignant neoplasm of the kidney                                                                                                                                                                            |
| Laryngeal cancer                 | Malignant neoplasm of the larynx                                                                                                                                                                            |
| Leukemia                         | Malignant neoplasm of the Blood and Bone Marrow (Leukemia)                                                                                                                                                   |
| Lip and oral cavity cancer       | Malignant neoplasm of the lips and oral cavity                                                                                                                                                                |
| Liver cancer                     | Malignant neoplasm of the liver                                                                                                                                                                             |
| Low back pain                    | Current low back pain (with or without pain referred into one or both lower limbs) that lasts for at least one day. The “low back” is defined as the area on the posterior aspect of the body from the lower margin of the twelfth ribs to the lower gluteal folds |
| Lower respiratory tract infections| Clinician-diagnosed episode of pneumonia or bronchiolitis.                                                                                                                                                   |
| Lung cancer                      | Malignant neoplasm of the trachea, bronchus, and lungs                                                                                                                                                      |
| Macular degeneration             | Blindness (presenting visual acuity in the better eye of <3/60 or <10% visual field around central fixation point) due to macular degeneration, which is a deterioration of the macula, the part of the retina responsible for central vision. Presenting vision is measured with any corrective lenses currently in use. |
| Multiple sclerosis               | Multiple sclerosis is a chronic, degenerative, and progressive neurological condition typified by the damaging of the myelin sheaths of nerves.                                                               |
| Nasopharyngeal cancer            | Malignant neoplasm of the nasopharynx                                                                                                                                                                       |
| Other pharynx cancer             | Malignant neoplasm of the pharynx                                                                                                                                                                           |
| Pancreatic cancer                | Malignant neoplasm of the pancreas                                                                                                                                                                          |
| Parkinson's disease              | New cases according to Gelb criteria (presence of two out of four cardinal symptoms: rest tremor, bradykinesia, rigidity, unilateral onset).                                                                  |
| Peptic ulcer disease             | Disease characterized by defects in the lining of the stomach or duodenum that extend through the muscularis mucosa into deeper layers and which have caused symptoms or complications (hemorrhage, perforation, obstruction) sufficient to prompt an individual with access to seek care in the last 12 months and leading to diagnosis by a healthcare provider. This can include individuals in an asymptomatic period following one or more symptomatic periods or complications |
Peripheral artery disease | Peripheral arterial disease diagnosed by an Ankle-Brachial Index <0.9.
Prostate cancer | Malignant neoplasm of the prostate
Rheumatoid arthritis | Four of the 1987 criteria by the American College of Rheumatology (ACR 1987), which stipulate seven diagnostic criteria, need to be satisfied for a diagnosis.
Stomach cancer | Malignant neoplasm of the stomach
Stroke | Stroke was defined according to WHO criteria of rapidly developing clinical signs of usually focal disturbance of cerebral function lasting more than 24 h or leading to death.
Tuberculosis | All-forms of Tuberculosis including pulmonary TB that is bacteriologically confirmed (smear and/or culture confirmed) and extrapulmonary TB that is bacteriologically confirmed or clinically diagnosed.
Diabetes | Fasting plasma glucose greater or equal to 126 mg/dl (7 mmol/l) or current treatment (insulin or drugs).

Section 1.4: Data extraction

Table 2: Data extraction template

| Extracted variable (column name) | Extraction guidance provided |
|----------------------------------|-----------------------------|
| extractor | id of person who extracted the data |
| seq |  |
| underlying_nid | Underlying NID: Enter the underlying NID of the study (if applicable). Always talk to a data indexer if you don't know if an underlying NID is needed. They may be used for meta-analyses, certain database sources, and in some other specific cases. |
| nid | Found in GHDx, created through the epi form, or created by Data Indexer |
| field_citation_value | IHME Zotero format or if source has NID, citation info from GHDx |
| file_path | optional; full file path of article; Only needed if source doesn't have NID, to facilitate NID creation. |
| risk | Risk: Select the risk factor, if not listed here, contact the causal criteria team |
| risk_mapping | the relationship between study definition of risk and GBD definition of risk for a particular effect size |
| outcome | Outcome: Select the outcome. |
| outcome_mapping | the relationship between study definition of outcome and GBD definition of outcome for a particular effect size |
| location_name | location name (from locations tab). Do a fast double-click in this field to get the drop-down menu, then start typing the location_name. For location_names with special characters, you may need to use the scroll bar. |
| location_id | autopopulated from location_name |
| rep_geography | Were the study participants representative of the geography? 1=yes, 0=no |
| rep_selection_criteria | If rep_geography is 0, please specify the selection criteria of the study that is used in the analysis |
| rep_prevalent_disease | Is the study aiming to evaluate the risk or mortality of people who have already developed the outcome? 1=yes 0=no (i.e. yes if for SBP-IHD paper, all participants have IHD at baseline and the paper is looking at mortality due to SBP, no if for SBP-IHD paper the participants have other prevalent diseases) |
| year_start_study | year the study was started. If not specified, leave blank |
| year_end_study | year the study was finished (including most recent follow up). If not specified, leave blank |
| age_start | ages from 1 and above must be entered as an integer. Ages <1 can be entered as decimal values, e.g., 3 days = 3/365. |
| Field               | Description |
|---------------------|-------------|
| age_end             | ages from 1 and above must be entered as an integer. Ages <1 can be entered as decimal values, e.g., 3 days = 3/365. |
| age_mean            | Mean age    |
| age_sd              | SD of age   |
| age_issue           | 0 = no issue flagged; 1 = issue flagged for modeler; always include explanatory notes in the note_SR column. |
| percent_male        | what percent of the population is male (0-1), if pop is all female then it would be 0 |
| sex_issue           | sex_issue   |
| design              | Study design: Specify the design of the study |
| study_name          | Study Name: Enter the name of the study (e.g., Nurses' Health Study), if provided. Do not enter the title of the article. |
| exp_assess_level    | Level of exposure assessment: The exposure was assessed… |
| exp_instrument      | Exposure assessment instrument: Specify the name of the exposure assessment instrument. For self-reported exposures, please specify the name of the questionnaire e.g., International Physical Activity Questionnaire (IPAQ). If more than one instrument specify all. |
| exp_assess_period   | What was the frequency of exposure assessment? |
| exp_assess_num      | if multiple, specify the number of times that exposure was assessed (excluding baseline) |
| exp_method_1        | Please specify the method of exposure assessment. If there are more than 1, please add in the next columns labeled "exp_method_2". |
| exp_method_2        | Please specify the method of exposure assessment. If there are more than 2, please add in the next columns labeled "exp_method_3". |
| exp_method_3        | Please specify the method of exposure assessment. |
| exp_recall_period   | This field describes the unit of exposure recall used in data collection ONLY for self-report. Select the correct option from the drop-down menu. If the unit is days, weeks, months, or years, please enter the number in exp_recall_period_value (next column). If the unit is 'lifetime', nothing needs to be entered in exp_recall_period_value. For example, if the study said the recall period was 4 weeks, enter 4 in exp_recall_period_value, and 'weeks' in the field exp_recall_period. If 'other' is selected, please describe in exp_recall_period_other. |
| exp_recall_period_value | If you entered days, weeks, months, or years in the field 'exp_recall_period', please enter the corresponding integer in this field. For example, if the study said the recall period was 4 weeks, enter 4 in exp_recall_period_value, and 'weeks' in the field exp_recall_period. |
| exp_recall_period_other | If 'other' was selected in exp_recall_period, please describe the exposure recall period that the study specified (e.g., recall of exposure from 12 to 18 years). |
| exp_type            | Which form of the exposure was included in relative risk estimation analysis? |
| outcome_def         | Outcome definition: Provide a brief description of the outcome as reported in the study. |
| outcome_type        | Outcome type: please specify if the outcome definition included incidence of or mortality from a disease endpoint |
| outcome_assess_1    | Method of outcome assessment: Specify the method of assessment of the study outcome. If more than 1 are appropriate, enter additional methods in the next column labeled "outcome_assess_2". |
| outcome_assess_2    | Method of outcome assessment: Specify the method of assessment of the study outcome. If more than 2 are appropriate, enter additional methods in the next column labeled "outcome_assess_3". |
| outcome_assess_3    | Method of outcome assessment: Specify the method of assessment of the study outcome. |
| duration_fup_measure | Type of follow up measure (i.e. mean, median, max, min) |
|----------------------|--------------------------------------------------------|
| duration_fup_units   | Units of follow up duration                            |
| value_of_duration_fup| Enter the length of participant follow-up.             |
| confounders_age      | if controlled for in the relative risk estimation analysis, mark 1 for yes. Mark 0 for no |
| confounders_sex      | if controlled for in the relative risk estimation analysis, mark 1 for yes. Mark 0 for no |
| confounders_education| if controlled for in the relative risk estimation analysis, mark 1 for yes. Mark 0 for no |
| confounders_income   | if controlled for in the relative risk estimation analysis, mark 1 for yes. Mark 0 for no |
| confounders_smoking  | if controlled for in the relative risk estimation analysis, mark 1 for yes. Mark 0 for no |
| confounders_alcohol_use| if controlled for in the relative risk estimation analysis, mark 1 for yes. Mark 0 for no |
| confounders_physical_activity| if controlled for in the relative risk estimation analysis, mark 1 for yes. Mark 0 for no |
| confounders_dietary_components| if controlled for in the relative risk estimation analysis, mark 1 for yes. Mark 0 for no |
| confounders_bmi      | if controlled for in the relative risk estimation analysis, mark 1 for yes. Mark 0 for no |
| confounders_hypertension| if controlled for in the relative risk estimation analysis, mark 1 for yes. Mark 0 for no |
| confounders_diabetes | if controlled for in the relative risk estimation analysis, mark 1 for yes. Mark 0 for no |
| confounders_hypercholesterolemia| if controlled for in the relative risk estimation analysis, mark 1 for yes. Mark 0 for no |
| confounders_other    | For other confounders that not listed, list here       |
| page_num_effect_size | Page number (where you found effect_size) from literature, or survey question where you found effect size; Use page number(s) of article, not page # of pdf |
| custom_exp_level_lower_sign| can use a <., = etc in association with custom_exp_level_lower |
| custom_exp_level_lower | if don't have a mean/midpoint exposure level can use this column in conjecture with the custom_exp_level_upper to enter in a range |
| custom_exp_level_upper_sign| can use a <., = etc in association with custom_exp_level_upper |
| custom_exp_level_upper | if don't have a mean/midpoint exposure level can use this column in conjecture with the custom_exp_level_lower to enter in a range |
| custom_unexp_level_lower_sign| can use a <., = etc in association with custom_unexp_level_lower |
| custom_unexp_level_lower | if don't have a mean/midpoint exposure level can use this column in conjecture with the custom_unexp_level_upper to enter in a range |
| custom_unexp_level_upper_sign| can use a <., = etc in association with custom_unexp_level_upper |
| custom_unexp_level_upper | if don't have a mean/midpoint exposure level can use this column in conjecture with the custom_unexp_level_lower to enter in a range |
| effect_size_measure  | Effect size measure: Specify the measure of effect size |
| effect_size          | Effect size estimate: Provide the effect size estimate |
| lower                | Provide the lower limit of the confidence interval. Enter on a "per 1" basis. (If the CI is reported as a percent, you must convert to a decimal.) These 3 fields must all be filled in if any of them are filled in: lower, upper, uncertainty_type_value. |
| upper                | Provide the upper limit of the confidence interval. Enter on a "per 1" basis. (If the CI is reported as a percent, you must convert to a decimal.) These 3 fields must all be filled in if any of them are filled in: lower, upper, uncertainty_type_value. |
| Field                                      | Description                                                                                                                                                                                                 |
|--------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CI_uncertainty_type_value                  | This field is required if 'lower' & 'upper' are entered. This column represents the confidence level which is reported at (Eg. 95, 90, 99). These 3 fields must all be filled in if any of them are filled in: lower, upper, uncertainty_type_value. |
| nonCI_uncertainty_value                   | Numerical value of the nonCI_uncertainty_type entered in that column. For example, if SD=5.3, you'd put 5.3 in this column, and choose SD from the drop down menu in nonCI_uncertainty_type. |
| nonCI_uncertainty_type                    | Enter SE or SD if appropriate. For example, if SD=5.3, you'd put 5.3 in nonCI_uncertainty_value, and choose SD from the drop down menu in this column (nonCI_uncertainty_type). |
| uncertainty_issue                         | Mark with a 1 if no uncertainty is reported, if some sort of uncertainty is reported, mark 0                                                                                                                                                                           |
| custom_webplot_digitizer                  | 1 if webplot digitizer was used to pull the effect size                                                                                                                                                      |
| subgroup_analysis                         | 1 if RR is from main analysis (all participants), 0 if sub-analysis (only males, or among a specific age group, etc.)                                                                                           |
| subgroup_analysis_free_text               | If a sub-analysis, describe it (i.e. age, sex, etc.)                                                                                                                                                         |
| effect_size_multi_location                | 1 if the reported effect size is from a multi-country study and only one effect size has been reported for all locations, otherwise 0                                                                   |
| effect_size_multi_location_specify        | which geography level is the RR for                                                                                                                                                                            |
| pooled_cohort                             | 1 if the reported effect size is from a pooled analysis and only pooled effect size has been reported, otherwise 0                                                                                           |
| dose_response                             | Does the study support a dose-response relationship between the exposure and the outcome? (1= yes, 0= no)                                                                                                    |
| dose_response_detail                      | If "**" was specified in the dose_response field, please specify in this field the type of evidence supporting the dose-response relationship. For example, ""statistically significant p value for linear trend"". |
| cohort_person_years_exp                   | Please specify the person years of follow up in the exposed group                                                                                                                                              |
| cohort_person_years_unexp                 | Please specify the person years of follow up in the unexposed group                                                                                                                                           |
| cohort_person_years_total                 | Enter the total person-years of follow-up if person-years of follow up in exposed and unexposed not reported                                                                                                 |
| cohort_number_events_exp                  | Please specify the number of events in the exposed group                                                                                                                                                      |
| cohort_number_events_unexp                | Please specify the number of events in the unexposed group                                                                                                                                                   |
| cohort_number_events_total                | Enter the total number of events/cases if number of events in exposed and unexposed not reported                                                                                                               |
| cohort_sample_size_exp                    | Please specify the number of people in the exposed group if person-years of follow up in exposed not reported                                                                                               |
| cohort_sample_size_unexp                  | Please specify the number of people in the unexposed group if person-years of follow up in unexposed not reported                                                                                             |
| cohort_sample_size_total                  | Please specify the number of people included in the analysis if total person-years of follow up in not reported                                                                                             |
| cohort.dropout_rate                       | Dropout rate?: Specify the dropout rate (%) at the end of the study. Enter on a ""per 1"" basis. For example: 23% is entered as .23.                                                                                |
| cohort.dropout_assess                     | Specify how dropout rate was defined in the study.                                                                                                                                                           |
| cohort_exposed_def                        | exposed group definition: Provide a brief description of the exposed group (i.e., the comparison group) as used in estimation of the relative risk (e.g., never smokers) |
| cohort_exp_unit_rr                        | Exposure unit (for continuous risks): Specify the unit of exposure (e.g., grams/day).                                                                                                                       |
| cohort_exp_level_rr                       | Exposure level in the exposed group (for continuous risks): Specify the mean/median level of exposure in the exposed group.                                                                             |
| cohort_unexp_def                          | unexposed group definition: Provide a brief description of the unexposed group (i.e., the comparison group) as used in estimation of the relative risk (e.g., never smokers) |
| Column | Description |
|--------|-------------|
| cohort_unexp_unit_rr | Exposure unit (for continuous risks): Specify the unit of exposure (e.g., grams/day) for the unexposed group. |
| cohort_unexp_level_rr | Exposure level in the unexposed group (for continuous risks): Specify the mean/median level of exposure in the unexposed group. |
| cohort_exp_level_dr | Exposure level in for dose-repose RRs (for continuous risks): If the study reports dose-repose RR, please specify the level of exposure for the reported RR. |
| cc_community | Were the controls selected from the community? 1 = yes, 0 = no |
| cc_cases | Number of cases |
| cc_control | Number of controls |
| ccExposed_def | Exposed group definition: Provide a brief description of the exposed group for which the the relative risk is reported (e.g., current smokers). |
| cc_exp_unit_rr | Exposure unit (for continuous risks): Specify the unit of exposure (e.g., grams/day). |
| cc_exp_level_rr | Exposure level in the exposed group (for continuous risks): Specify the mean/median level of exposure in the exposed group. |
| cc_unexposed_def | Unexposed group definition: Provide a brief description of the unexposed group (i.e., the comparison group) as used in estimation of the relative risk (e.g., never smokers). |
| cc_unexp_unit_rr | Exposure level in the unexposed group (for continuous risks): Specify the mean/median level of exposure in the unexposed group. |
| cc_exp_level_dr | Exposure level in for dose-repose RRs (for continuous risks): If the study reports dose-repose RR, please specify the level of exposure for the reported RR. |
| int_intervention_description | Intervention definition: Provide a brief description of the intervention as reported in the study. |
| int_control_description | Control definition: Provide a brief description of the control as reported in the study. |
| int_intervention_multi_rf | Does this intervention simultaneously target more than one risk? (1 = yes, 0 = no). |
| int_intervention_multi_rf Specify | Specify the risks that are targeted by the intervention. |
| int_intervention_level | Level of intervention: The intervention was implemented … |
| int_adhere_assess | Specify how adherence was defined in the study. |
| int_adhere_rate_intervention | Adherence rate in the intervention group; Enter on a "per 1" basis. For example: 23% is entered as .23. |
| int_adhere_rate_control | Adherence rate in the control group; Enter on a "per 1" basis. For example: 23% is entered as .23. |
| int_dropout_rate_intervention | Dropout rate in the intervention group: Specify the dropout rate (%) at the end of the study. Enter on a "per 1" basis. For example: 23% is entered as .23. |
| int_dropout_rate_control | Dropout rate in the control group: Specify the dropout rate (%) at the end of the study. Enter on a "per 1" basis. For example: 23% is entered as .23. |
| int_dropout_assess | Specify how dropout rate was defined in the study. |
| int_blinding | For interventional studies. Blinding: The trial was … (select 1) |
| int_exp_unit | For trials, specify the unit of exposure (e.g., mmol/l). |
| int_baseline_exp_int | For trials, specify the exposure level in the intervention group at baseline. |
| int_baseline_exp_comp | For trials, specify the exposure level in the comparison group at baseline. |
| int_fup_exp_int | For trials, specify the exposure level in the intervention group at the end of the follow-up time. |
| int_fup_exp_comp | For trials, specify the exposure level in the comparison group at the end of follow up time. |
| **int_fup_exp_int_difference** | For trials, please specify the difference of exposure level between baseline and follow up time for the intervention group |
| **int_fup_exp_comp_difference** | For trials, please specify the difference of exposure level between baseline and follow up time for the comparison group |
| **int_person_years_int** | Please specify the number of person years of follow up for the intervention group |
| **int_person_years_comp** | Please specify the number of person years of follow up in the comparison group |
| **int_number_events_int** | For trials, specify the number of cases in the intervention group at the end of follow up |
| **int_number_events_comp** | For trials, specify the number of cases in the control group at the end of follow up |
| **int_sample_size_int_groupBaseline** | For trials, specify the sample size in the intervention group at baseline |
| **int_sample_size_comparison_group_baseline** | For trials, specify the sample size in the comparison group at baseline |
| **int_sample_size_int_group_follow_up** | For trials, specify the sample size in the intervention group at the end of the follow-up time |
| **int_sample_size_comparison_group_follow_up** | For trials, specify the sample size in the comparison group at the end of follow up time |
| **note_modeler** | for modelers only, audience is modeler, not for correspondence |
| **note_sr** | notes related to extraction, including assumptions, data adjustment, problems with source, any other notes that may be relevant, etc. |

**Section 1.5: PRISMA diagrams**
See next page.
PRISMA 2020 flow diagram for a new systematic review of the Smoking and Cardiovascular disease risk-outcome pair for age-specific relative risks

**Identification of studies via databases and registers**

- Records identified from: Databases (n = 7847^)

**Identification of studies via other methods**

- Records identified from: Websites (n = 0) Organisations (n = 0) Citation searching (n = 0) Previous reviews (n = 90)

**Records removed before screening:**
- Duplicate records (n = 1917)

**Records screened (n = 5930)**

**Records excluded (n = 5292)**

**Reports sought for retrieval (n = 638)**

**Reports not retrieved:**
- Foreign language (n = 22)
- Unreviewed (n = 4)

**Reports assessed for eligibility (n = 612)**

**Reports excluded:**
- No age-specific relative risk (n = 475)
- No risk-outcome association (n = 45)
- Other (n = 15)
- Study already extracted (n = 5)
- No relative risk (n = 2)
- Unrepresentative population (n = 1)

**Studies included in review (n = 159)**

- Ischemic heart disease (n = 51)
- Stroke (n = 37)
- Subarachnoid hemorrhage (n = 35)
- Ischemic stroke (n = 34)
- Peripheral vascular disease (n = 28)
- Cardiovascular diseases (n = 25)
- Intracerebral hemorrhage (n = 19)
- Aortic aneurysm (n = 7)
- Hemorrhagic stroke (n = 4)
- Atrial fibrillation and flutter (n = 3)
- Other cardiovascular and circulatory diseases (n = 1)

^ Several database search results representing separate risk-outcome pairs were combined into one master set of results.
PRISMA 2020 flow diagram for an updated systematic review of the Smoking and Atrial fibrillation and flutter risk-outcome pair

### Previous studies

- Studies and reports included in previous version of review (n = 4)

### Identification of new studies via databases and registers

- Records identified from:
  - Databases (n = 289)
  - Registers (n = 0)

- Records removed before screening:
  - Duplicate records removed (n = 0)
  - Records marked as ineligible by automation tools (n = 0)
  - Records removed for other reasons (n = 0)

- Records screened (n = 289)

- Records excluded (n = 238)

- Reports sought for retrieval (n = 51)

- Reports assessed for eligibility (n = 51)

- Reports excluded:
  - No risk-outcome analysis (n = 14)
  - No dose-response data (n = 35)
  - Meta-analyses (n = 1)
  - Unsuitable study definition (n = 1)

- New studies included in review (n = 0)

- Reports of new included studies (n = 1)

### Identification of new studies via other methods

- Records identified from:
  - Websites (n = 0)
  - Organisations (n = 0)
  - Citation searching (n = 2)
  - Unknown (n = 1)

- Reports sought for retrieval (n = 2)

- Reports assessed for eligibility (n = 2)

- Reports excluded:
  - Other (n = 1)

- Reports not retrieved (n = 1)

### Included

- Total studies included in review (n = 5)

- *One study not included in current analysis due to its focus on former smoking.*

*Study sources dropped since the last systematic review contained only exposure measure types which are no longer considered for this risk-outcome pair (years smoked and pack-years).*
PRISMA 2020 flow diagram for an updated systematic review of the Smoking and Aortic aneurysm risk-outcome pair

**Previous studies**
- Studies and reports included in previous version of review (n = 13)

**Identification of new studies via databases and registers**
- Records identified from:
  - Databases (n = 130)
  - Registers (n = 0)
- Records removed before screening:
  - Duplicate records removed (n = 0)
  - Records marked as ineligible by automation tools (n = 0)
  - Records removed for other reasons (n = 0)
- Records identified from:
  - Websites (n = 0)
  - Organisations (n = 0)
  - Citation searching (n = 24)
- Records screened (n = 103)
- Records excluded (n = 103)
- Reports sought for retrieval (n = 27)
- Reports not retrieved (n = 0)
- Reports assessed for eligibility (n = 27)
- Reports excluded:
  - Meta-analysis (n = 1)
  - No risk-outcome analysis (n = 1)
  - No relative risk measure (n = 1)
  - No dose-response data (n = 21)
  - Other (n = 2)
  - Wrong study design (n = 1)
- Reports assessed for eligibility (n = 10)
- Reports excluded:
  - Unrepresentative population (n = 1)
  - No dose-response data (n = 8)

**Identification of new studies via other methods**
- Reports not retrieved: Screened already (n = 14)

**Included**
- New studies included in review (n = 0)
- Reports of new included studies (n = 1)
- Total studies included in review (n = 14)
PRISMA 2020 flow diagram for an updated systematic review of the Smoking and Ischemic heart disease risk-outcome pair

Identification of new studies via databases and registers

Records identified from:
- Databases (n = 2013)
- Registers (n = 0)

Records removed before screening:
- Duplicate records removed (n = 0)
- Records marked as ineligible by automation tools (n = 0)
- Records removed for other reasons (n = 0)

Records screened (n = 2013)

Reports sought for retrieval (n = 461)

Reports assessed for eligibility (n = 449)

New studies included in review (n = 6)
- Reports of new included studies (n = 2)

Reports excluded:
- No risk-outcome analysis (n = 43)
- No dose-response data (n = 369)
- Unrepresentative population (n = 11)
- No relative risk measure (n = 1)
- Other (n = 3)
- Meta-analyses (n = 5)
- Wrong study design type (n = 8)
- Unsuitable study definition (n = 3)

Reports not retrieved (n = 12)

Identification of new studies via other methods

Records identified from:
- Websites (n = 0)
- Organisations (n = 0)
- Citation searching (n = 47)
- Unknown (n = 2)

Records sought for retrieval (n = 49)

Reports assessed for eligibility (n = 25)

Reports excluded:
- No dose-response (n = 4)
- Unrepresentative population (n = 1)
- Other (n = 4)
- Meta-analyses (n = 1)
- Unsuitable study definition (n = 2)
- Identified in database review (n = 5)
- Unsuitable exposure definition (n = 6)

Total studies included in review (n = 60)

% Study sources dropped since the last systematic review contained only exposure measure types which are no longer considered for this risk-outcome pair (years smoked and pack-years). The present analysis does not include studies focused on former smoking.
PRISMA 2020 flow diagram for an updated systematic review of the Smoking and Lower extremity peripheral arterial disease risk-outcome pair

Identification of new studies via databases and registers

Identification of new studies via other methods

Previous studies

Records identified from:
Databases (n = 272)
Registers (n = 0)

Records removed before screening:
Duplicate records removed (n = 0)
Records marked as ineligible by automation tools (n = 0)
Records removed for other reasons (n = 0)

Records identified from:
Websites (n = 0)
Organisations (n = 0)
Citation searching (n = 0)
Unknown (n = 1)

Records screened (n = 272)

Records excluded (n = 247)

Reports sought for retrieval (n = 25)

Reports not retrieved (n = 0)

Reports assessed for eligibility (n = 25)

Reports excluded:
No risk-outcome analysis (n = 4)
No dose-response data (n = 18)
Unrepresentative population (n = 1)

New studies included in review (n = 2)
Reports of new included studies (n = 1)

Total studies included in review (n = 6)

Reports sought for retrieval (n = 1)

Reports not retrieved (n = 0)

Reports assessed for eligibility (n = 1)

Reports excluded (n = 0)

^ Studies focusing on former smoking were not included in the present analysis.
Identification of new studies via databases and registers

Records identified from:
Databases (n = 1374)
Registers (n = 0)

Records removed before screening:
Duplicate records removed (n = 0)
Records marked as ineligible by automation tools (n = 0)
Records removed for other reasons (n = 0)

Records screened (n = 1374)

Records excluded (n = 1021)

Reports sought for retrieval (n = 353)

Reports excluded:
No risk-outcome analysis (n = 12)
No dose-response data (n = 243)
Unrepresentative population (n = 36)
No relative risk measure (n = 1)
Other (n = 10)
Meta-analyses (n = 8)
Wrong study design type (n = 5)
Unsuitable study definition (n = 23)

Reports assessed for eligibility (n = 347)

New studies included in review (n = 9)
Reports of new included studies (n = 9)

Total studies included in review (n = 67)

Identification of new studies via other methods

Records identified from:
Websites (n = 0)
Organisations (n = 0)
Citation searching (n = 0)
Unknown (n = 9)

Reports sought for retrieval (n = 64)

Reports excluded:
No dose-response (n = 19)
Unrepresentative population (n = 1)
Other (n = 1)
Duplicate of included study (n = 13)
Identified in database review (n = 11)
 Unsuitable exposure definition (n = 8)
Wrong study design type (n = 2)

Reports assessed for eligibility (n = 64)

New studies included in review (n = 9)
Reports of new included studies (n = 9)

Identification of previous studies

Studies and reports included in previous version of review (n = 49)\(^*\)

Identification

Screening

Included

\(^*\) 2 previously included studies for current smoking were excluded due to an update in the exclusion criteria for GBD 2020. The present analysis does not include sources that focus on former smoking.
PRISMA 2020 flow diagram for an updated systematic review of the Smoking and Gallbladder and biliary diseases risk-outcome pair

Identification of new studies via databases and registers

Records identified from:
- Databases (n = 73)
- Registers (n = 0)

Records removed before screening:
- Duplicate records removed (n = 0)
- Records marked as ineligible by automation tools (n = 0)
- Records removed for other reasons (n = 0)

Records screened (n = 73)

Records excluded (n = 64)

Reports sought for retrieval (n = 9)

Reports assessed for eligibility (n = 9)

New studies included in review (n = 0)
- Reports of new included studies (n = 1)

Total studies included in review (n = 4)

Identification of new studies via other methods

Records identified from:
- Websites (n = 0)
- Organisations (n = 0)
- Citation searching (n = 30)
- Unknown (n = 1)

Reports sought for retrieval (n = 31)

Reports not retrieved (n = 3)

Reports assessed for eligibility (n = 28)

Reports excluded:
- No dose-response (n = 2)
- Meta-analyses (n = 1)
- Duplicate of included study (n = 2)
- Identified in database review (n = 22)

Previous studies

Studies and reports included in previous version of review (n = 3)
PRISMA 2020 flow diagram for an updated systematic review of the Smoking and Peptic ulcer disease risk-outcome pair

**Previous studies**
- Studies and reports included in previous version of review (n = 7)^

**Identification of new studies via databases and registers**
- Records identified from:
  - Databases (n = 42)
  - Registers (n = 0)
  - Duplicate records removed (n = 0)
  - Records marked as ineligible by automation tools (n = 0)
  - Records removed for other reasons (n = 0)
- Records screened (n = 42)
- Records excluded (n = 39)
- Reports sought for retrieval (n = 3)
- Reports assessed for eligibility (n = 3)
  - New studies included in review (n = 0)
  - Reports of new included studies (n = 0)

**Identification of new studies via other methods**
- Records identified from:
  - Websites (n = 0)
  - Organisations (n = 0)
  - Citation searching (n = 0)
- Reports sought for retrieval (n = 0)
- Reports assessed for eligibility (n = 0)
- Reports excluded (n = 0)

**Included**
- Total studies included in review (n = 7)

^ 2 previously included studies for current smoking (cig/day) were excluded due to an update in the exclusion criteria for GBD 2020
PRISMA 2020 flow diagram for an updated systematic review of the Smoking and Lower respiratory infections risk-outcome pair

**Previous studies**

Studies and reports included in previous version of review (n = 4)

**Identification of new studies via databases and registers**

- Records identified from:
  - Databases (n = 753)
  - Registers (n = 0)

- Records removed before screening:
  - Duplicate records removed (n = 0)
  - Records marked as ineligible by automation tools (n = 0)
  - Records removed for other reasons (n = 0)

- Records screened (n = 753)

- Records excluded (n = 668)

- Reports sought for retrieval (n = 85)

- Reports not retrieved (n = 0)

- Reports assessed for eligibility (n = 85)

- New studies included in review (n = 2)
  - Reports of new included studies (n = 1)

- Total studies included in review (n = 7)

**Identification of new studies via other methods**

- Records identified from:
  - Websites (n = 0)
  - Organisations (n = 0)
  - Citation searching (n = 0)
  - Unknown (n = 2)

- Reports sought for retrieval (n = 2)

- Reports not retrieved (n = 0)

- Reports assessed for eligibility (n = 2)

- Reports excluded:
  - No risk-outcome analysis (n = 14)
  - No dose-response data (n = 59)
  - Unrepresentative population (n = 1)
  - Meta-analyses (n = 1)
  - Wrong study design type (n = 4)
  - Unsuitable study definition (n = 4)

- Reports excluded Other (n = 1)

% Study sources dropped since the last systematic review contained only exposure measure types which are no longer considered for this risk-outcome pair (years smoked and pack-years). Studies focusing on former smoking exposure were not included in the present analysis.

^ 1 previously included study for current smoking (cig/day) was excluded due to an update in the exclusion criteria for GBD 2020
PRISMA 2020 flow diagram for an updated systematic review of the Smoking and Low back pain risk-outcome pair

Identification

Studies and reports included in previous version of review (n = 6)

Identification of new studies via databases and registers

Records identified from:
- Databases (n = 46)
- Registers (n = 0)

Records removed before screening:
- Duplicate records removed (n = 0)
- Records marked as ineligible by automation tools (n = 0)
- Records removed for other reasons (n = 0)

Records screened (n = 46)

Records excluded (n = 34)

Reports sought for retrieval (n = 12)

Reports not retrieved (n = 0)

Reports assessed for eligibility (n = 12)

Reports excluded:
- No dose-response data (n = 7)
- No risk-outcome analysis (n = 1)
- Unrepresentative population (n = 1)
- Meta-analyses (n = 1)
- Wrong study design type (n = 2)

New studies included in review (n = 0)

Reports of new included studies (n = 0)

Total studies included in review (n = 6)

Identification of new studies via other methods

Records identified from:
- Websites (n = 0)
- Organisations (n = 0)
- Citation searching (n = 1)
- Unknown (n = 1)

Reports sought for retrieval (n = 1)

Reports not retrieved (n = 1)

Reports assessed for eligibility (n = 1)

Reports excluded
- No dose-response data (n = 1)
PRISMA 2020 flow diagram for an updated systematic review of the Smoking and Rheumatoid arthritis risk-outcome pair

Previous studies
- Studies and reports included in previous version of review (n = 3)^

Identification of new studies via databases and registers
- Records identified from:
  - Databases (n = 264)
  - Registers (n = 0)
- Records removed before screening:
  - Duplicate records removed (n = 0)
  - Records marked as ineligible by automation tools (n = 0)
  - Records removed for other reasons (n = 0)
- Records screened (n = 264)
- Records excluded (n = 180)
- Reports sought for retrieval (n = 84)
- Reports not retrieved (n = 0)
- Reports assessed for eligibility (n = 84)
- Reports excluded:
  - No risk-outcome analysis (n = 12)
  - No dose-response data (n = 55)
  - Unrepresentative population (n = 1)
  - Other (n = 5)
  - Wrong study design type (n = 6)
  - Unsuitable study definition (n = 2)

Identification of new studies via other methods
- Records identified from:
  - Websites (n = 0)
  - Organisations (n = 0)
  - Citation searching (n = 0)
- Reports sought for retrieval (n = 0)
- Reports not retrieved (n = 0)

New studies included in review (n = 3)
- Reports of new included studies (n = 0)

Total studies included in review (n = 6)^

^ Study sources with only former smoking exposure data were excluded for the burden of proof analysis
PRISMA 2020 flow diagram for an updated systematic review of the Smoking and Bladder cancer risk-outcome pair

Identification of new studies via databases and registers

Records identified from:
- Databases (n = 4061)*
- Registers (n = 0)

Records removed before screening:
- Duplicate records removed (n = 0)
- Records marked as ineligible by automation tools (n = 0)
- Records removed for other reasons (n = 0)

Records screened (n = 4061)

Records excluded (n = 3060)

Reports sought for retrieval (n = 1001)

Reports not retrieved (n = 9)

Reports assessed for eligibility (n = 992)

New studies included in review (n = 2)
- Reports of new included studies (n = 26)

Total studies included in review (n = 30)

Identification of new studies via other methods

Records identified from:
- Websites (n = 0)
- Organisations (n = 0)
- Citation searching (n = 148)

Reports sought for retrieval (n = 148)

Reports not retrieved: (n = 24)

Reports assessed for eligibility (n = 124)

Reports excluded:
- No dose-response (n = 27)
- Other (n = 7)
- Meta-analyses (n = 1)
- Unsuitable study definition (n = 7)
- Duplicate of included study (n = 11)
- Identified in database review (n = 14)
- Unsuitable exposure definition (n = 27)
- Wrong study design type (n = 4)

* A composite search string containing multiple cancers associated with smoking was used; final counts for individual cancers were discerned in the full-text screening step

% Study sources dropped since the last systematic review contained only exposure measure types which are no longer considered for this risk-outcome pair (years smoked and cig/day). Former smoking sources were not included for the current analysis.

^ 1 previously included study for current smoking (pack-years) was excluded due to an update in the exclusion criteria for GBD 2020

Previous studies

Studies and reports included in previous version of review (n = 2)
% Study sources dropped since the last systematic review contained only exposure measure types which are no longer considered for this risk-outcome pair (years smoked and cig/day). Studies focusing on former smoking exposure were not included in the present analysis.

* A composite search string containing multiple cancers associated with smoking was used; final counts for individual cancers were discerned in the full-text screening step.
Records identified from: Databases (n = 4061)*
Records removed before screening: Duplicate records removed (n = 0)
Records marked as ineligible by automation tools (n = 0)
Records removed for other reasons (n = 0)
Records identified from: Websites (n = 0)
Organisations (n = 0)
Citation searching (n = 6)

Total studies included in review (n = 16)

% Study sources dropped since the last systematic review contained only exposure measure types which are no longer considered for this risk-outcome pair (years smoked and cig/day)
* A composite search string containing multiple cancers associated with smoking was used; final counts for individual cancers were discerned in the full-text screening step
^ Study sources with only former smoking exposure data were excluded for the burden of proof analysis
**PRISMA 2020 flow diagram for an updated systematic review of the Smoking and Esophageal cancer risk-outcome pair**

**Previous studies**
- Records identified from: Databases (n = 4061) *
- Registers (n = 0)

**Identification of new studies via databases and registers**
- Records screened (n = 4061)
- Records excluded (n = 3060)

**Identification of new studies via other methods**
- Records identified from: Websites (n = 0)
- Organisations (n = 0)
- Citation searching (n = 11)

**Screening**
- Reports sought for retrieval (n = 1001)
- Reports not retrieved (n = 9)

**Included**
- Reports assessed for eligibility (n = 992)
- New studies included in review (n = 5)
- Reports assessed for eligibility (n = 11)
- Reports not retrieved (n = 0)

**Total studies included in review (n = 14)**

---

* A composite search string containing multiple cancers associated with smoking was used; final counts for individual cancers were discerned in the full-text screening step.

% Study sources dropped since the last systematic review contained only exposure measure types which are no longer considered for this risk-outcome pair (years smoked and cig/day).

^ 2 previously included studies for current smoking (pack-years) were excluded due to an update in the exclusion criteria for GBD 2020. The present analysis does not include sources that focus on former smoking.
PRISMA 2020 flow diagram for an updated systematic review of the Smoking and Kidney cancer risk-outcome pair

Identification

Previous studies

Identification of new studies via databases and registers

Identification of new studies via other methods

Records identified from:
- Databases (n = 4061)*
- Registers (n = 0)

Records removed before screening:
- Duplicate records removed (n = 0)
- Records marked as ineligible by automation tools (n = 0)
- Records removed for other reasons (n = 0)

Records screened (n = 4061)

Records excluded (n = 3060)

Records identified from:
- Websites (n = 0)
- Organisations (n = 0)
- Citation searching (n = 41)

Records sought for retrieval (n = 1001)

Reports not retrieved (n = 9)

Records sought for retrieval (n = 41)

Reports not retrieved (n = 4)

Records assessed for eligibility (n = 992)

Reports excluded:
- No risk-outcome analysis (n = 187)
- No dose-response data (n = 511)
- Unrepresentative population (n = 20)
- No relative risk measure (n = 56)
- Other (n = 21)
- Meta-analyses (n = 11)
- Wrong study design type (n = 39)
- Unsuitable study definition (n = 87)
- Other cancers (n = 57)

New studies included in review (n = 3)

Reports of new included studies (n = 9)

Total studies included in review (n = 18)

Studies and reports included in previous version of review (n = 6)16

Identification of new studies via databases and registers

Reports sought for retrieval (n = 37)

Reports excluded:
- No dose-response data (n = 5)
- Other (n = 1)
- Meta-analyses (n = 1)
- Unsuitable study definition (n = 1)
- Duplicate of included study (n = 6)
- Identified in database review (n = 5)
- Unsuitable exposure definition (n = 9)

Reports assessed for eligibility (n = 37)

Reports not retrieved: (n = 4)

* A composite search string containing multiple cancers associated with smoking was used; final counts for individual cancers were discerned in the full-text screening step

% Study sources dropped since the last systematic review contained only exposure measure types which are no longer considered for this risk-outcome pair (years smoked and cig/day). Studies focusing on former smoking exposure were not included in the present analysis.

# Studies with suitable former smoking data were identified and extracted, but they were not incorporated into GBD 2020 results
PRISMA 2020 flow diagram for an updated systematic review of the Smoking and Laryngeal cancer risk-outcome pair

**Previous studies**
- Reports identified from: Databases (n = 4061)*
- Records removed before screening: Duplicate records removed (n = 0)
- Records marked as ineligible by automation tools (n = 0)
- Records removed for other reasons (n = 0)
- Records screened (n = 4061)
- Records excluded (n = 3060)
- Reprots sought for retrieval (n = 1001)
- Reprots not retrieved (n = 9)
- Reprots assessed for eligibility (n = 992)
- New studies included in review (n = 1)
- Reports of new included studies (n = 0)

**Identification of new studies via databases and registers**
- Reprots identified from: Databases (n = 4061)*
- Records removed before screening: Duplicate records removed (n = 0)
- Records marked as ineligible by automation tools (n = 0)
- Records removed for other reasons (n = 0)
- Records screened (n = 4061)
- Records excluded (n = 3060)
- Reprots sought for retrieval (n = 1001)
- Reprots not retrieved (n = 9)
- Reprots assessed for eligibility (n = 992)
- New studies included in review (n = 1)
- Reports of new included studies (n = 0)

**Identification of new studies via other methods**
- Reprots identified from: Websites (n = 0)
- Organisations (n = 0)
- Citation searching (n = 4)
- Reprots sought for retrieval (n = 4)
- Reprots not retrieved (n = 0)
- Reprots assessed for eligibility (n = 4)

**Included**
- Total studies included in review (n = 5)

---

* A composite search string containing multiple cancers associated with smoking was used; final counts for individual cancers were discerned in the full-text screening step.
% Study sources dropped since the last systematic review contained only exposure measure types which are no longer considered for this risk-outcome pair (years smoked and cig/day). Studies only featuring former smoking were not included in the present analysis.
* A composite search string containing multiple cancers associated with smoking was used; final counts for individual cancers were discerned in the full-text screening step.

% Study sources dropped since the last systematic review contained only exposure measure types which are no longer considered for this risk-outcome pair (years smoked and cig/day). Studies only reporting former smoking information were not included in this present analysis.
PRISMA 2020 flow diagram for an updated systematic review of the Smoking and Liver cancer risk-outcome pair

Identification

Previous studies

Records identified from:
  Databases (n = 4061)*
  Registers (n = 0)

Identification of new studies via databases and registers

Records removed before screening:
  Duplicate records removed (n = 0)
  Records marked as ineligible by automation tools (n = 0)
  Records removed for other reasons (n = 0)

Records screened (n = 4061)

Records excluded (n = 3060)

Reports sought for retrieval (n = 1001)

Reports not retrieved (n = 9)

Reports assessed for eligibility (n = 992)

New studies included in review (n = 1)

Reports of new included studies (n = 5)

Identification of new studies via other methods

Records identified from:
  Websites (n = 0)
  Organisations (n = 0)
  Citation searching (n = 4)
  Unknown (n = 4)

Reports sought for retrieval

Reports not retrieved (n = 1)

Reports assessed for eligibility (n = 7)

Reports excluded:
  No dose-response (n = 1)
  Meta-analyses (n = 1)

Previous studies

Studies and reports included in previous version of review (n = 6)\textsuperscript{10}

Identification

Screening

Included

Total studies included in review (n = 12)

* A composite search string containing multiple cancers associated with smoking was used; final counts for individual cancers were discerned in the full-text screening step

% Study sources dropped since the last systematic review contained only exposure measure types which are no longer considered for this risk-outcome pair (years smoked and cig/day) or no longer fit our inclusion criteria. Studies focusing on former smoking exposure were not included in the present analysis.
Records identified from: Databases (n = 4061)*
Registers (n = 0)

Records removed before screening:
Duplicate records removed (n = 0)
Records marked as ineligible by automation tools (n = 0)
Records removed for other reasons (n = 0)

Records screened (n = 4061)

Records excluded (n = 3060)

Records identified from:
Websites (n = 0)
Organisations (n = 0)
Citation searching (n = 16)

Records sought for retrieval (n = 1001)

Reports not retrieved (n = 9)

Reports assessed for eligibility (n = 992)

New studies included in review (n = 2)
Reports of new included studies (n = 3)

Total studies included in review (n = 10)

Identification of new studies via databases and registers

Identification of new studies via other methods

Identification

Screening

Included

* A composite search string containing multiple cancers associated with smoking was used; final counts for individual cancers were discerned in the full-text screening step.
% Study sources dropped since the last systematic review contained only exposure measure types which are no longer considered for this risk-outcome pair (years smoked and cig/day). Former smoking sources were not included for the current analysis.
* A previously included study for current smoking (pack-years) was excluded due to an update in the exclusion criteria for GBD 2020. Study sources with only former smoking exposure data were excluded for the burden of proof analysis.
Studies and reports included in previous version of review (n = 9)\(^\text{\textregistered}\)\(^\text{\textregistered}\)

Identification of new studies via databases and registers

Records identified from:
Databases (n = 4061)*
Registers (n = 0)

Records removed before screening:
Duplicate records removed (n = 0)
Records marked as ineligible by automation tools (n = 0)
Records removed for other reasons (n = 0)

Records screened (n = 4061)

Records excluded (n = 3060)

Reports sought for retrieval (n = 1001)

Reports not retrieved (n = 9)

Reports assessed for eligibility (n = 992)

New studies included in review (n = 1)
Reports of new included studies (n = 2)

Total studies included in review (n = 12)

Identification of new studies via other methods

Records identified from:
Websites (n = 0)
Organisations (n = 0)
Citation searching (n = 7)
Unknown (n = 1)

Reports sought for retrieval (n = 5)

Reports not retrieved (n = 3)

Reports assessed for eligibility (n = 5)

Reports excluded:
Duplicate of included study (n = 1)
Identified in database review (n = 1)
Wrong study design type (n = 1)

Previous studies

Identification

Screening

Included

\* A composite search string containing multiple cancers associated with smoking was used; final counts for individual cancers were discerned in the full-text screening step.

\% Study sources dropped since the last systematic review contained only exposure measure types which are no longer considered for this risk-outcome pair (years smoked and cig/day). Studies focusing on former smoking exposure were not included in the present analysis.

\^ 1 previously included study for current smoking (pack-years) was excluded due to an update in the exclusion criteria for GBD 2020.
**PRISMA 2020 flow diagram for an updated systematic review of the Smoking and Other pharynx cancer risk-outcome pair**

**Previous studies**
- Studies and reports included in previous version of review (n = 4)^a\(^b\)

**Identification of new studies via databases and registers**
- Records identified from:
  - Databases (n = 4061)*
  - Registers (n = 0)
- Records removed before screening:
  - Duplicate records removed (n = 0)
  - Records marked as ineligible by automation tools (n = 0)
  - Records removed for other reasons (n = 0)
- Records screened (n = 4061)
- Records excluded (n = 3060)
- Reports sought for retrieval (n = 1001)
- Reports not retrieved (n = 9)
- Reports assessed for eligibility (n = 992)
- New studies included in review (n = 3)
  - Reports of new included studies (n = 1)

**Identification of new studies via other methods**
- Records identified from:
  - Websites (n = 0)
  - Organisations (n = 0)
  - Citation searching (n = 0)
  - Unknown (n = 1)
- Reports sought for retrieval (n = 1)
- Reports not retrieved (n = 0)
- Reports excluded:
  - No risk-outcome analysis (n = 187)
  - No dose-response data (n = 511)
  - Unrepresentative population (n = 20)
  - No relative risk measure (n = 56)
  - Other (n = 21)
  - Meta-analyses (n = 11)
  - Wrong study design type (n = 39)
  - Unsuitable study definition (n = 87)
  - Other cancers (n = 57)
- Reports assessed for eligibility (n = 1)
- Reports excluded (n = 0)

**Total studies included in review (n = 8)**

---

* A composite search string containing multiple cancers associated with smoking was used; final counts for individual cancers were discerned in the full-text screening step.
% Study sources dropped since the last systematic review contained only exposure measure types which are no longer considered for this risk-outcome pair (years smoked and cig/day). Former smoking sources were not included for the current analysis.
^ a I previously included study for current smoking (pack-years) was excluded due to an update in the exclusion criteria for GBD 2020. Study sources with only former smoking exposure data were excluded for the burden of proof analysis.
**PRISMA 2020 flow diagram for an updated systematic review of the Smoking and Pancreatic cancer risk-outcome pair**

**Previous studies**
- Studies and reports included in previous version of review (n = 13)

**Identification of new studies via databases and registers**
- Records identified from: Databases (n = 4061)*
  - Registers (n = 0)
- Records removed before screening:
  - Duplicate records removed (n = 0)
  - Records marked as ineligible by automation tools (n = 0)
  - Records removed for other reasons (n = 0)
- Records screened (n = 4061)
- Reports sought for retrieval (n = 1001)
- Reports assessed for eligibility (n = 992)
- New studies included in review (n = 5)
- Reports of new included studies (n = 1)
- Total studies included in review (n = 19)

**Identification of new studies via other methods**
- Records identified from: Websites (n = 0)
  - Organisations (n = 0)
  - Citation searching (n = 6)
- Reports sought for retrieval (n = 6)
- Reports not retrieved (n = 1)
- Reports assessed for eligibility (n = 5)
- Reports excluded:
  - No dose-response (n = 2)
  - Meta-analysis (n = 1)
  - Unsuitable exposure definition (n = 1)
- Reports excluded:
  - No risk-outcome analysis (n = 187)
  - No dose-response data (n = 511)
  - Unrepresentative population (n = 20)
  - No relative risk measure (n = 56)
  - Other (n = 21)
  - Meta-analyses (n = 11)
  - Wrong study design type (n = 39)
  - Unsuitable study definition (n = 87)
  - Other cancers (n = 55)

---

* A composite search string containing multiple cancers associated with smoking was used; final counts for individual cancers were discerned in the full-text screening step.
% Study sources dropped since the last systematic review contained only exposure measure types which are no longer considered for this risk-outcome pair (years smoked and cig/day). Studies focusing on former smoking exposure were not included in the present analysis.
^ 4 previously included studies for current smoking (pack-years) were excluded due to an update in the exclusion criteria for GBD 2020.
# 1 study with suitable former smoking data was identified and extracted, but it was not incorporated into GBD 2020 results.
PRISMA 2020 flow diagram for an updated systematic review of the Smoking and Stomach cancer risk-outcome pair

Identification of new studies via databases and registers

Records identified from:
Databases (n = 4061)*
Registers (n = 0)

Records removed before screening:
Duplicate records removed (n = 0)
Records marked as ineligible by automation tools (n = 0)
Records removed for other reasons (n = 0)

Records screened (n = 4061)

Records excluded (n = 3060)

Reports sought for retrieval (n = 1001)

Reports excluded:
No risk-outcome analysis (n = 187)
No dose-response data (n = 511)
Unrepresentative population (n = 20)
No relative risk measure (n = 56)
Other (n = 21)
Meta-analyses (n = 11)
Wrong study design type (n = 39)
Unsuitable study definition (n = 87)
Other cancers (n = 58)

Reports assessed for eligibility (n = 992)

New studies included in review (n = 2)
Reports of new included studies (n = 1)

Total studies included in review (n = 13)

Identification of new studies via other methods

Records identified from:
Websites (n = 0)
Organisations (n = 0)
Citation searching (n = 16)

Reports sought for retrieval (n = 16)

Reports not retrieved (n = 9)

Reports assessed for eligibility (n = 12)

Reports excluded:
Unsuitable study definition (n = 4)
No dose-response data (n = 4)
Identified in database review (n = 2)
Unsuitable exposure definition (n = 1)

Reports not retrieved
Already screened (n = 3)
Former smoking data only (n = 1)^

Identification of new studies via previous version of review

Studies and reports included in previous version of review (n = 10)\(^^\)

Identification of new studies via previous version of review

Previous studies

Records identified from:
Databases (n = 4061)*
Registers (n = 0)

Records screened (n = 4061)

Reports sought for retrieval (n = 1001)

Reports assessed for eligibility (n = 992)

New studies included in review (n = 2)
Reports of new included studies (n = 1)

Total studies included in review (n = 13)

* A composite search string containing multiple cancers associated with smoking was used; final counts for individual cancers were discerned in the full-text screening step.
% Study sources dropped since the last systematic review contained only exposure measure types which are no longer considered for this risk-outcome pair (years smoked and cig/day). Former smoking sources were not included for the current analysis.
^ 2 previously included studies for current smoking (pack-years) were excluded due to an update in the exclusion criteria for GBD 2020. Study sources with only former smoking exposure data were excluded for the burden of proof analysis.
# Studies with suitable former smoking data were identified and extracted, but they were not incorporated into GBD 2020 results

Identification of previous version of review

Previous studies

Studies and reports included in previous version of review (n = 10)\(^^\)

Identification of previous version of review

Identification of new studies via previous version of review

Previous studies

Studies and reports included in previous version of review (n = 10)\(^^\)

Identification of new studies via previous version of review

Previous studies

Studies and reports included in previous version of review (n = 10)\(^^\)
**PRISMA 2020 flow diagram for an updated systematic review of the Smoking and Alzheimer’s disease and other dementias risk-outcome pair**

**Previous studies**
- Studies included in previous version of review (n = 5)

**Identification of new studies via databases and registers**
- Records identified from:
  - Databases (n = 294)
  - Registers (n = 0)
- Records removed before screening:
  - Duplicate records removed (n = 0)
  - Records marked as ineligible by automation tools (n = 0)
  - Records removed for other reasons (n = 0)
- Records screened (n = 294)
- Records excluded (n = 197)
- Reports sought for retrieval (n = 97)
- Reports not retrieved: Former smoking data only (n = 1)*
- Reports assessed for eligibility (n = 96)
  - New studies included in review (n = 2)
  - Reports of new included studies (n = 1)
  - Reports excluded:
    - No risk-outcome analysis (n = 14)
    - No dose-response data (n = 66)
    - Unrepresentative population (n = 3)
    - No relative risk measure (n = 2)
    - Meta-analyses (n = 2)
    - Wrong study design type (n = 7)
- Total studies included in review (n = 8)

**Identification of new studies via other methods**
- Records identified from:
  - Websites (n = 0)
  - Organisations (n = 0)
  - Citation searching (n = 100)
- Reports sought for retrieval (n = 100)
- Reports not retrieved:
  - Foreign language (n = 2)
  - Screened already (n = 33)
  - Irretrievable (n = 6)
- Reports assessed for eligibility (n = 59)
  - Reports excluded:
    - Meta-analysis (n = 4)
    - Duplicate of included study (n = 5)
    - Wrong study design type (n = 6)
    - No risk-outcome analysis (n = 19)
    - Unrepresentative population (n = 5)
    - Unsuitable study definition (n = 2)
    - No relative risk measure (n = 4)
    - No dose-response data (n = 13)

* Studies with suitable former smoking data were identified and extracted, but they were not incorporated into GBD 2020 results
Studies and reports included in previous version of review (n = 3)

Identification

Records identified from:
Databases (n = 101)
Registers (n = 0)

Records removed before screening:
Duplicate records removed (n = 0)
Records marked as ineligible by automation tools (n = 0)
Records removed for other reasons (n = 0)

Records screened (n = 101)

Records excluded (n = 67)

Reports sought for retrieval (n = 34)

Reports assessed for eligibility (n = 34)

No risk-outcome analysis (n = 9)
No dose-response data (n = 15)
Unrepresentative population (n = 3)
Other (n = 4)
Meta-analyses (n = 2)
Wrong study design type (n = 7)

New studies included in review (n = 0)
Reports of new included studies (n = 3)

Total studies included in review (n = 6)

Previous studies

Identification of new studies via databases and registers

Identification of new studies via other methods

Records identified from:
Websites (n = 0)
Organisations (n = 0)
Citation searching (n = 0)
Unknown (n = 3)

Reports sought for retrieval (n = 3)

Reports not retrieved (n = 0)

New studies included in review (n = 0)
Reports of new included studies (n = 3)

# The present analysis does not include studies for former smoking.
PRISMA 2020 flow diagram for an updated systematic review of the Smoking and Parkinson’s disease risk-outcome pair

### Identification

- **Previous studies**
  - Studies and reports included in previous version of review (n = 8)

- **Identification of new studies via databases and registers**
  - Records identified from:
    - Databases (n = 94)
    - Registers (n = 0)
  - Records removed before screening:
    - Duplicate records removed (n = 0)
    - Records marked as ineligible by automation tools (n = 0)
    - Records removed for other reasons (n = 0)
  - Records screened (n = 94)
  - Records excluded (n = 47)
  - Reports sought for retrieval (n = 47)
  - Reports assessed for eligibility (n = 47)
  - Reports excluded:
    - No risk-outcome analysis (n = 4)
    - No dose-response data (n = 39)
    - Meta-analyses (n = 1)
    - Wrong study design type (n = 2)
  - New studies included in review (n = 1)
  - Reports of new included studies (n = 5)
  - Total studies included in review (n = 14)

- **Identification of new studies via other methods**
  - Records identified from:
    - Websites (n = 0)
    - Organisations (n = 0)
    - Citation searching (n = 9)
    - Unknown (n = 5)
  - Reports sought for retrieval (n = 15)
  - Reports not retrieved (n = 0)
  - Reports assessed for eligibility (n = 15)
  - Reports excluded:
    - No dose-response (n = 1)
    - Identified in database review (n = 8)

### Notes

- Study sources dropped since the last systematic review contained only exposure measure types which are no longer considered for this risk-outcome pair (years smoked and pack-years)
- Study sources with only former smoking exposure data were excluded for the burden of proof analysis
PRISMA 2020 flow diagram for an updated systematic review of the Smoking and Asthma risk-outcome pair

**Previous studies**
- Studies and reports included in previous version of review (n = 6)

**Identification of new studies via databases and registers**
- Records identified from:
  - Databases (n = 437)
  - Registers (n = 0)
- Records removed before screening:
  - Duplicate records removed (n = 0)
  - Records marked as ineligible by automation tools (n = 0)
  - Records removed for other reasons (n = 0)
- Records screened (n = 437)
- Records excluded (n = 355)
- Reports sought for retrieval (n = 82)
- Reports assessed for eligibility (n = 82)
- New studies included in review (n = 0)
- Reports of new included studies (n = 1)
- Total studies included in review (n = 7)

**Identification of new studies via other methods**
- Records identified from:
  - Websites (n = 0)
  - Organisations (n = 0)
  - Citation searching (n = 20)
  - Unknown (n = 1)
- Reports sought for retrieval (n = 21)
- Reports not retrieved (n = 12)
- Reports assessed for eligibility (n = 9)
- Reports excluded:
  - No risk-outcome analysis (n = 38)
  - No dose-response data (n = 24)
  - Meta-analyses (n = 1)
  - Wrong study design type (n = 9)
  - Unsuitable study definition (n = 10)
- Reports excluded: Identified in database review (n = 8)

% Study sources dropped since the last systematic review contained only exposure measure types which are no longer considered for this risk-outcome pair (years smoked and pack-years). Studies focusing on former smoking exposure were not included in the present analysis.
PRISMA 2020 flow diagram for an updated systematic review of the Smoking and Cataract risk-outcome pair

Identification of new studies via databases and registers

**Records identified from:**
Databases (n = 68)
Registers (n = 0)

**Records removed before screening:**
Duplicate records removed (n = 0)
Records marked as ineligible by automation tools (n = 0)
Records removed for other reasons (n = 0)

**Records screened (n = 68)**

**Records excluded (n = 59)**

**Reports sought for retrieval (n = 9)**

**Reports assessed for eligibility (n = 9)**

- New studies included in review (n = 2)
- Reports of new included studies (n = 1)

% Study sources dropped since the last systematic review contained only exposure measure types which are no longer considered for this risk-outcome pair (years smoked and pack-years). Studies focusing on former smoking exposure were not included in the present analysis.

Identification of new studies via other methods

**Records identified from:**
Websites (n = 0)
Organisations (n = 0)
Citation searching (n = 22)
Unknown (n = 1)

**Reports sought for retrieval (n = 23)**

**Reports assessed for eligibility (n = 21)**

- Reports excluded:
  - Unrepresentative population (n = 2)
  - Unsuitable study definition (n = 5)
  - No dose-response data (n = 13)

% Study sources dropped since the last systematic review contained only exposure measure types which are no longer considered for this risk-outcome pair (years smoked and pack-years). Studies focusing on former smoking exposure were not included in the present analysis.

**Total studies included in review (n = 11)**

Studies and reports included in previous version of review (n = 8)

Identification of previous studies

Previous studies

**Studies and reports included in previous version of review (n = 8)**
PRISMA 2020 flow diagram for an updated systematic review of the Smoking and Age-related macular degeneration risk-outcome pair

Identification

Previous studies

Records identified from:
Databases (n = 57)
Registers (n = 0)

Identification of new studies via databases and registers

Records screened
(n = 57)

Records removed before screening:
Duplicate records removed (n = 0)
Records marked as ineligible by automation tools (n = 0)
Records removed for other reasons (n = 0)

Records excluded
(n = 35)

Identification of new studies via other methods

Records identified from:
Websites (n = 0)
Organisations (n = 0)
Citation searching (n = 0)

Reports sought for retrieval
(n = 22)

Reports excluded:
No risk-outcome analysis (n = 3)
No dose-response data (n = 18)
Wrong exposure measure (n = 1)

Reports assessed for eligibility
(n = 22)

New studies included in review
(n = 0)
Reports of new included studies
(n = 0)

Total studies included in review
(n = 2)
PRISMA 2020 flow diagram for an updated systematic review of the Smoking and Tuberculosis risk-outcome pair

Previous studies

- Studies and reports included in previous version of review (n = 15)^

Identification of new studies via databases and registers

- Records identified from:
  - Databases (n = 164)
  - Registers (n = 0)
- Records removed before screening:
  - Duplicate records removed (n = 0)
  - Records marked as ineligible by automation tools (n = 0)
  - Records removed for other reasons (n = 0)
- Records screened (n = 164)
- Records excluded (n = 138)
- Reports sought for retrieval (n = 26)
- Reports assessed for eligibility (n = 26)
- Reports excluded:
  - No risk-outcome analysis (n = 1)
  - No dose-response data (n = 8)
  - Unrepresentative population (n = 7)
  - No relative risk measure (n = 1)
  - Other (n = 2)
  - Wrong study design type (n = 4)
- New studies included in review (n = 3)
- Reports of new included studies (n = 1)
- Total studies included in review (n = 19)

Identification of new studies via other methods

- Records identified from:
  - Websites (n = 0)
  - Organisations (n = 0)
  - Citation searching (n = 0)
  - Unknown (n = 1)
- Reports sought for retrieval (n = 1)
- Reports not retrieved (n = 0)
- Reports assessed for eligibility (n = 1)
- Reports excluded (n = 0)
- New studies included in review (n = 3)
- Reports of new included studies (n = 1)
- Total studies included in review (n = 19)

^ 2 previously included studies for current smoking (cig/day) were excluded due to an update in the exclusion criteria for GBD 2020
## Section 2: Data inputs

### Section 2.1: Study characteristics

| Cause          | NID       | Underlying NID | Author    | Year | Study name                          | Population | Location                        | Study design | Sex | Follow-up | Age start | Age end | Exposure assessment | Endpoint | Disease ascertainment | Person-years | Events | Sample size | Outcomes | Cases | Controls | Control pool | Exposed            |
|----------------|-----------|----------------|-----------|------|-------------------------------------|------------|-----------------------------------|--------------|-----|-----------|-----------|--------|---------------------|----------|--------------------|--------------|-------|-------------|----------|-------|----------|-------------|---------------------|
| aortic aneurism| 345571    |                | Kahn      | 1966 | U.S. Veterans Study                | United States | Prospective cohort | Both | 8.5 | 31         | 84        | Self-administered questionnaire | Mortality | Vital records       | 2265674     | 491   | 293658     | Nonsyphilitic aeurysm of aorta |
| cvd            | 465049    |                | Hammond   | 1966 | Cancer Prevention Study I (CPS I)  | Individuals in 25 states other than mobile communitie s and individuals in long-term medical institutions | United States | Prospective cohort | Both | 35  | 84         | Questionnaire | Mortality | Vital records, physician confirmation | 3764571     | 1003229 | Aortic aneurysm |
| stroke         | 344362    |                | Ostfeld   | 1974 | Noninstitutionalized Black and white adults receiving Old Age Assistance in Cook County, IL | United States | Prospective cohort | Both | 2.675 | 65         | 74        | Administered questionnaire | Incidence | Medical records, Medical examination | 312         | 3141  | Stroke     |
| stroke         | 122237    |                | Okada     | 1976 | Residents of two rural communitie s | Japan       | Prospective cohort | Both | 7   | 40         | 79        | Self-administered questionnaire | Incidence | Medical records, vital records | 36696       | 69    | 3778       | Cerebral hemorrhag e |
| stroke         | 343647    |                | Doll      | 1976 | British male doctors               | United Kingdom | Prospective cohort | Male | 20  | 20         | 99        | Postal questionnaire | Mortality | Registrars-General of the United Kingdom, General Medical Council, other registries | 616         | 34440 | Cerebral thrombosis |
| Study                          | Women/Women of Color | Location                          | Methodology | Country          | Age | Population | Exposure/Condition                                                                 |
|-------------------------------|----------------------|-----------------------------------|-------------|-----------------|-----|------------|-------------------------------------------------------------------------------------|
| CVD                           | White women in       | Northern California               | Case-control| United States   | 33  | 58         | Self-administered questionnaire                                                    |
| IHD                           | British Doctors'     | United Kingdom                    | Prospective | United Kingdom  | 22  | 20         | Mailed questionnaire                                                               |
| IBD                           | British Doctors'     | United Kingdom                    | Prospective | United Kingdom  | 22  | 18         | Self-administered questionnaire                                                   |
| IHD                           | Female doctors       | United Kingdom                    | Prospective | United Kingdom  | 22  | 18         | Self-administered questionnaire                                                   |
| IHD                           | Female doctors       | United Kingdom                    | Prospective | United Kingdom  | 22  | 18         | Self-administered questionnaire                                                   |
| IBD                           | Female doctors       | United Kingdom                    | Prospective | United Kingdom  | 22  | 18         | Self-administered questionnaire                                                   |
| IBD                           | Married nurses       | United States                      | Case-control| United States   | 30  | 55         | Interview Incidence                                                               |
| Gallbladder diseases          | Females who attended family planning | United Kingdom | Prospective cohort | Femal e | 9.1 | 25         | Incidence Surgically-confirmed gallbladder disease ascertained                     |

Notes:
- CVD: Cardiovascular Disease
- IHD: Ischemic Heart Disease
- IBD: Inflammatory Bowel Disease
- Parkinson's disease
- Gallbladder disease
| Stroke | Fuller 1983 | Whitehall Study | Male civil servants | United Kingdom | Prospective cohort | Male | 10 | 40 | 64 | Screening survey | Mortality | Central registry | 84 | 16484 | Stroke |
|--------|------------|----------------|---------------------|----------------|--------------------|------|-----|-----|-----|----------------|-----------|-----------------|-----|--------|--------|
| IHD    | Rosenberg 1983 | Females enrolled in a study on oral contraceptive use | United States | Case-control | Female | 25 | 49 | Standard questionnaire | Hospitalization | Clinical diagnosis | Acute myocardial infarction | 255 | 796 | Hospital |
| IHD    | Kaufman 1983 | Patients in 78 hospitals in the northeast | United States | Case-control | Male | 30 | 54 | Administered questionnaire | Hospitalization | Clinical diagnosis, medical review | Nonfatal first myocardial infarction | 502 | 835 | Hospital |
| CVD    | Kaufman 1983 | Patients in 78 hospitals in the northeast | United States | Case-control | Male | 30 | 54 | Administered questionnaire | Hospitalization | Clinical diagnosis, medical review | Nonfatal first myocardial infarction | 502 | 835 | Hospital |
| Fractures | Seeman 1983 | Male patients at the Metabolic Bone Disease Clinic with vertebral fractures due to spinal osteoporosis | United States | Case-control | Male | 44 | 85 | Administered questionnaire | Incidence | Medical reports | Vertebral fractures due to osteoporosis | 105 | 105 | Men with Paget's disease |
| CVD    | Khaw 1984 | Adult residents of a white, upper-middle class community in Southern California | United States | Prospective cohort | Both | 9 | 65 | 84 | Standardized interview | Mortality | Vital records, family report, hospital and clinical records | 73 | 2107 | Stroke |
| IHD    | Kono 1985 | Male Japanese doctors in 9 prefectural | Japan | Prospective cohort | Male | 12.7 | 18 | 99 | Administered questionnaire | Mortality | Vital records | 121 | 5446 | Coronary heart disease (ICD-8 410-414) |
| Study | ID    | Authors | Year | Study Design | Gender | Age Range | Method of Collection | Cause of Death | Incidence | Control Group | Cause of Death | Number of Cases | Number of Controls | Disease of Interest |
|-------|-------|---------|------|--------------|--------|-----------|---------------------|----------------|-----------|---------------|----------------|----------------|------------------|---------------------|
| stroke | 328460 | Kono   | 1985 | Male | Japan | 12.7 - 18 | Questionnaire | Mortality | Vital records | Stroke (430-438) | 154 | 5446 | Medical associations |
| lung_cancer | 358213 | Vena   | 1985 | Male | United States | 35 - 79 | Pre-admission questionnaire | Incidence | Clinical records | Lung cancer | 1002 | 2121 | White patients admitted to Roswell Park Memorial Institute |
| ihd | 359113 | Rosenberg | 1985 | Male | United States | 20 - 54 | Questionnaire | Hospitalization | Admission records | First myocardial infarction | 1873 | 2775 | Patients in 78 hospitals in the northeast |
| stroke | 350743 | Bonita | 1986 | Both | New Zealand | 35 - 64 | Questionnaire | Incidence | Medical diagnosis | Subarachnoid hemorrhage | 115 | 1586 | Residents of the Auckland region |
| stroke | 358506 | Bonita | 1986 | Both | New Zealand | 35 - 64 | Questionnaire | Incidence | Medical diagnosis | Stroke | 132 | 1586 | Patients and controls from 12 hospitals affiliated with one of five participating study centers in the US |
| liver_cancer | 343515 | Austin | 1986 | Both | United States | 18 - 80 | Personal interviews | Incidence | Medical records, autopsy records | Hepatocellular carcinoma | 86 | 161 | Residents of Auckland |
| cvd | 344312 | Abbotti | 1986 | Male | United States | 12 - 45 | Self-reported | Incidence or Mortality | Hospital records, vital records, autopsy reports | Ischemic stroke; Hemorrhagic stroke; Stroke | 288 | 7872 | Honolulu Heart Program |
| cvd | 350743 | Bonita | 1986 | Both | New Zealand | 35 - 64 | Questionnaire | Incidence | Medical diagnosis | Subarachnoid hemorrhage | 115 | 1586 | Residents of the Auckland region |
| aortic aneurism | 347380 | Carstensen | 1987 | Male | Sweden | 15 - 18 | Self-administered questionnaire | Mortality | Vital records | Aortic aneurysm | 15 | 25129 | Random sample of |
| Study | Year | Authors | Location | Study Design | Sex | Study Group | Case Sources | Disease Sources | Cases |
|-------|------|---------|----------|--------------|-----|-------------|--------------|----------------|-------|
| lung cancer | 1987 | Brownson | White adults in Denver metropolitan area, Colorado, USA | Case-control | Both | 30 | Personal interview | Disease registry | 92 | 233 |
| lung cancer | 1987 | Brownson | White adults in Denver metropolitan area, Colorado, USA | Case-control | Both | 30 | Personal interview | Disease registry | 92 | 233 |
| Alzheimer's other dementia | 1987 | Shalat | Male patients and residents of eastern Massachusetts, United States | Case-control | Male | 18 | Self-administered questionnaire | Disease registry | 98 | 162 |
| Parkinson's disease | 1987 | Rajput | Residents of Rochester, United States | Case-control | Both | 40 | Medical records | Disease registry | 118 | 236 |
| Parkinson's disease | 1987 | Rajput | Residents of Rochester, United States | Case-control | Both | 40 | Medical records | Disease registry | 118 | 236 |
| Stroke | 1988 | Colditz | Female registered nurses in Nurses' Health Study, United States | Prospective cohort | Female | 8 | Self-administered questionnaire | Self-reported, medical records, vital records | 908447 | 274 | 118539 | Total stroke (subarachnoid hemorrhage, intracerebral hemorrhage, thromboembolic stroke, other) |
| Study Type | ID   | Authors   | Year | Study Description | Region            | Study Design  | Gender | Age | Disease | Exposures | Methods | Population | Age Range | Reference |
|------------|------|-----------|------|--------------------|-------------------|---------------|--------|-----|---------|-----------|---------|-------------|-----------|-----------|
| Stroke     | 344360 | Wolf      | 1988 | Framingham Heart Study Adults in Framingham, MA | United States | Prospective cohort | Both | 26 36 68 | Systematic examination  | Incidence or Mortality | Medical records, Medical examination | 459 4255 | Stroke or Transient ischemic attack |
| CVD        | 432105 | Syrjanen  | 1988 | Patients from Helsinki University Central Hospital | Finland           | Case-control | Both | 17 49 | Interview | Incidence | Medical diagnosis | Ischemic stroke | 54 54 |
| CVD        | 464146 | Oleckno   | 1988 | Patients from four community hospitals in northern Illinois | United States | Case-control | Femal e | 15 40 | Medical records | Incidence | Disease registry, medical records | Stroke | 54 864 |
| Cataracts  | 350491 | Flaye     | 1989 | Residents living around London | United Kingdom | Prospective cohort | Both | 3 54 65 | Self-administered questionnaire | Incidence | Physician diagnosis | Nuclear opacity | 95 1012 |
| Fractures  | 414225 | Wickham   | 1989 | Residents of eight study areas | United Kingdom | Prospective cohort | Femal e | 15 65 99 | Interview and medical assessment | Incidence | Medical records | Hip fracture | 7870 44 1340 |
| IHD        | 357353 | Gramenzi  | 1989 | Coronary care units in northern Italy | Italy             | Case-control | Femal e | 22 69 | PENDING ILLIAD | Hospitalization | Hospital records | Acute myocardial infarction | 262 519 |
| IHD        | 357456 | Quek      | 1989 | Females admitted to the coronary care unit of the General Hospital in Kuala Lumpur | Malaysia | Case-control | Femal e | 30 99 | Administered interview | Hospitalization | Clinical diagnosis based on clinical symptoms and test results | Acute myocardial infarction | 264 437 |
| IHD        | 359115 | Palmer    | 1989 | Patients in 78 hospitals in the northeast | United States | Case-control | Femal e | 25 64 | Administered questionnaire | Hospitalization | Admission records | Nonfatal first myocardial infarction | 910 2375 |
| Stroke     | 357431 | Gill      | 1989 | Patients in two medical centers | United Kingdom | Case-control | Both | 20 70 | Administered questionnaire | Hospitalization | Medical records and clinical diagnosis | Stroke | 621 573 |
| Peripheral artery disease | 369290 | Skalkidis | 1989 | Laikon Hospita in Athens | Greece | Case-control | Both | 18 99 | Interview | Incidence | Medical evaluation | Peripheral arterial occlusive disease | 100 100 |

**Legend:**
- **CVD**: Cardiovascular Disease
- **Cataracts**: Cataracts
- **Fractures**: Fractures
- **IHD**: Ischemic Heart Disease
- **Stroke**: Stroke
| ncp   | Ryden 1989 | United States | Case-control | Both   | 18   | 99 | Employee health records | Employee health records | Low-back injury | 84   | 168   | Selected from the same population as the cases |
|------|----------|----------------|--------------|--------|------|----|-------------------------|-------------------------|------------------|-------|------|-----------------------------------------------|
| cvd  | Gill 1989 | United Kingdom | Case-control | Both   | 20   | 70 | Administered questionnaire | Hospitalization | Medical records and clinical diagnosis | Stroke | 621  | 573 | Survey of industrial workers |
| cvd  | Thompson 1989 | United Kingdom | Nested case-control | Femal e | 45   | 69 | Interview | Incidence | Medical records | Stroke; Ischemic heart disease; Cardiovascular diseases | 603   | 1206  | Cohort population |
| bladder-cancer | Burch 1989 | Canada | Case-control | Both   | 35   | 79 | Interview | Incidence | Biomarker | Bladder cancer | 835   | 792  | From province-wide, annually updated listings |
| fractures | Anda 1990 | Noninstitntionalized female adult population of the United States | Prospective cohort | Femal e | 9    | 24 | 76 | Interview | Incidence | Self-reported physician diagnosis, hospital discharge records, | Gastric ulcer, duodenal ulcer, or peptic ulcer site unspecified | 140   | 2851 | Cohort population |
| copd  | Hirayama 1990 | Japan | Prospective cohort | Both   | 14.5 | 40 | 99 | Self-report | Mortality | Administrative medical records of six disease registries, death certificates | Cancer of the stomach (as coded by ICD-7) | 384963 7 | 265118 | Cohort population |
| ihd  | Hirayama 1990 | Japan | Prospective cohort | Both   | 17   | 40 | 99 | Administered questionnaire | Mortality | Disease registry, vital records | 384963 7 | 3548  | 265118 | Ischemic heart disease |
| peptic_ulcer | Anda 1990 | First National Health and Nutrition Examination Survey Epidemiology | United States | Prospective cohort | Femal e | 9    | 24 | 76 | Interview | Incidence | Self-reported physician diagnosis, hospital discharge records, | Gastric ulcer, duodenal ulcer, or peptic ulcer site unspecified | 140   | 2851 | Cohort population |
| study | n | last name | year | location | type | gender | age | follow-up method | cause of death | incidence | mortality | questionnaire mortality | self-report or death certificates | population registry | vital records | incidence | self-report or death certificates | population registry | vital records | percentage in same cohort with same disease | percentage in same cohort with same disease |
|-------|---|-----------|------|----------|------|-------|-----|-----------------|----------------|------------|-----------|-------------------------|--------------------------|----------------|--------------|----------|-----------------------------|----------------|--------------|---------------------------------|-----------------------------------|
| prostate cancer | 347383 | Hsing | 1990 | White male insurance policy holders, United States | White male | Male | 10-35 | Mailed questionnaire | Death certificates | 286731 | 149 | 26030 | Prostate cancer |
| Parkinson's disease | 359307 | Sasco | 1990 | United States | United States; Nested case-control | Male | 15-25 | Administrative records | Self-report, death certificates | 96 | 384 | Parkinson's disease |
| Breast cancer | 310487 | Chu | 1990 | General population, United States | United States | Female | 20-54 | Interview | Population-based cancer registries | 4730 | 4688 | Histologically confirmed breast cancer |
| CVD | 343461 | Hirayama | 1990 | Residents of 29 health center districts, Japan | Residents of 29 health center districts | Both | 17-49 | Administered questionnaire | Disease registry, vital records | 384963 | 3548 | 265118 | Ischemic heart disease |
| CVD | 464527 | Harmsen | 1990 | Men in Goteborg, Sweden | Men in Goteborg | Male | 11.8-47 | Postal questionnaire | Disease registry, vital records | 230 | 7495 | Subarachnoid hemorrhage; Intracerebral hemorrhage; Ischemic stroke; Stroke |
| Parkinson's disease | 359307 | Sasco | 1990 | United States | United States | Male | 15-25 | Administrative records | Self-report, death certificates | 96 | 384 | Parkinson's disease | Live subjects from the same cohort as the cases who self-reported in the 1976-78 questionnaire as having Parkinson's disease |

**Prostate Cancer Follow-up Study (NHEFS)**

Follow-up of a cohort of White male insurance policy holders in the United States to study mortality from prostate cancer.

**Lutheran Brotherhood Cohort**

Males who attended either Harvard or the University of Pennsylvania, United States, with follow-up using a cohort study design.

**Prostate Cancer Study**

Follow-up of males who attended either Harvard or the University of Pennsylvania, United States, with follow-up using a case-control study design.

**General Population Study**

Follow-up of a general population in the United States, with follow-up using a case-control study design.

**Six Prefectures Study**

Follow-up of residents of 29 health center districts in Japan, with follow-up using a cohort study design.

**Multifactor Primary Prevention Study**

Follow-up of men in Goteborg, Sweden, with follow-up using a cohort study design.

**Parkinson's Disease Study**

Follow-up of males who attended either Harvard or the University of Pennsylvania, United States, with follow-up using a nested case-control study design.
| Study | Participants | Design | Setting | Age | Gender | Study Method | Study Type | Patients with primary diagnosis | Cause | Reference |
|-------|--------------|--------|---------|-----|--------|--------------|------------|--------------------------------|--------|-----------|
| bladder cancer | 502468 | Harris | 1990 | Hospital | United States | Case-control | Both | 24 | NA | Structured interview | Incidence | Hospital records | Bladder cancer | 1663 | 4930 |
| prostate cancer | 343354 | Hsing | 1991 | Veterans' | United States | Prospective cohort | Male | 26 | 31 | 84 | Questionnaire | Mortality | Insurance records | Prostate cancer | 4607 | 293916 |
| stroke | 334410 | Kuller | 1991 | Multiple Risk Factor Intervention Trial (MRFIT) | United States | Prospective cohort | Male | 10.5 | 35 | 57 | Screening survey | Mortality | 262 | 361662 |
| stroke | 343297 | Shaper | 1991 | British regional heart study | United Kingdom | Prospective cohort | Male | 8 | 40 | 59 | Administered questionnaire | Incidence or Mortality | Vital records, Disease registry | Stroke (ICD 430-438) | 110 | 7735 |
| lung cancer | 193948 | Liu | 1991 | Farmers in Xuanwei, China | China | Case-control | Male | 18 | 99 | Administered questionnaire | Incidence | Pathologic al diagnosis or clinical history | Lung cancer | 56 | 224 |
| lung cancer | 355963 | Potter | 1991 | Women from the 1985 Iowa | Iowa, United States | Nested case-control | Female | 55 | 69 | Mailed questionnaire | Incidence | Disease registry | Lung cancer (ICD 0-162) | 109 | 2009 |
| Study | N | Year | Design | Setting | Method | Outcome | Hospital, Population Controls |
|-------|---|------|--------|---------|--------|---------|------------------------------|
| Becher 1991 | 357961 | Lung cancer | Case-control | Germany | Both | Incidence | Clinical records of histologically confirmed cases |
| Knekt 1991 | 408694 | CVD | Both | Finland | Both | Prevalence | Hospital discharge records, vital records |
| Mangion 1991 | 465269 | CVD | Both | New Zealand | Both | Prevalence | Hospital records |
| Burns 1991 | 502452 | Bladder cancer | Both | Michigan, United States | Both | Incidence | Cancer registry |
| Paganini-Hill 1991 | 261377 | Fractures | Both | Los Angeles, California | Both | Incidence | Hospital records |
| Vecchia 1991 | 498410 | Fractures | Both | Milan, Italy | Both | Incidence | Medical reports |
| Study | N | Year | Country | Program/Study | Participants | Methods | Disease surveillance | Disease | Population size | Notes |
|-------|---|------|---------|---------------|--------------|---------|---------------------|---------|----------------|-------|
| Lung cancer | 355961 | Chyou | 1992 | Honolulu Heart Program | American men of Japanese ancestry in Oahu, Hawaii, United States | Prospective cohort | Male | 22 | 46 | 65 | Administered interview | Incidence | Disease surveillance of hospitals with tissue confirmation | 212 | 8009 | Lung cancer (ICD-8 162.1) |
| Cataracts | 350493 | Hankinson | 1992 | Nurses' Health Study | Female registered nurses living in one of 11 US states | Prospective cohort | Female | 8 | 45 | 67 | Self-administered questionnaire | Incidence | Medical records, physician diagnosis | 470302 | 493 | 50828 | Senile cataract, cataract extraction |
| Cataracts | 359119 | Christen | 1992 | Physicians' Health Study | Male physicians in the US | Prospective cohort | Male | 5 | 40 | 84 | Self-administered questionnaire | Incidence | Medical records | 557 | 17824 | Cataract |
| Gallbladder diseases | 350721 | Stampfer | 1992 | Nurses' Health Study | Female registered nurses living in eleven large states in the United States | Prospective cohort | Female | 6.7 | 34 | 59 | Mailed questionnaire | Incidence | Self-reported in mailed questionnaire | 607104 | 2610 | 90302 | Cholecystectomy or symptomatic but unremoved gallstones |
| Lung cancer | 357351 | Jockel | 1992 | | Patients and hospital controls from seven hospitals in five German cities, and population controls from the city areas | Case-control | Both | 38 | 87 | Administered interview | Incidence | Clinical records of histologically confirmed lesions | Lung cancer | 194 | 582 | Population |
| Lung cancer | 358479 | Chiazze | 1992 | | Participants in the Newark (TIMA) plant cohort | Nested case-control | Both | 18 | 99 | Administered interviews | Mortality | Death records coded by a qualified nosologist | Lung cancer | 144 | 404 | Population |
| IHD | 309699 | Kalandidi | 1992 | | Patients at the Hippokrateion Hospital | Case-control | Both | 30 | 99 | Interviews | Hospitalization | Diagnosis with hospitalization | Coronary heart disease | 329 | 570 | Hospital |
| Stroke | 298316 | Longstreth | 1992 | | Residents of King County, Washington | Case-control | Both | 18 | 99 | Structured in-person interview | Incidence | Disease surveillance, emergency medical system reports, | Subarachnoid hemorrhage | 149 | 298 | Population |
| Study | Country | Year | Study Design | Population | Case-Control | Method | Years of follow-up | Incidence | Control Population | Control Method | Cases | Controls |
|-------|---------|------|--------------|-------------|--------------|--------|-------------------|-----------|-------------------|---------------|-------|-----------|
| Parkinson's disease | Spain | 1992 | Case-control | Both | 18-99 | Interview | Medical records | | Patients at the same hospital as the cases who attended the emergency room with nonneurological ailments | | 128 | 256 |
| Stomach cancer | Japan | 1992 | Case-control | Both | 18-99 | Interview | Physician diagnosis | | Newly diagnosed adenocarcinoma of the stomach | | 294 | 496 |

Cases and controls admitted to the Saitama Cancer Center Hospital, which covers seven provincial cities and two town within its vicinity; additional population controls were selected from across Saitama prefecture.

Population from within a single health area of Madrid.
| Disease                     | Study ID | Last Name | Year | Study Location                          | Study Design | Study Type | Sample Size | Age at Diagnosis | Study Methodology                                                                 |
|-----------------------------|----------|-----------|------|-----------------------------------------|--------------|------------|--------------|------------------|-----------------------------------------------------------------------------------|
| Laryngeal cancer            | 298147   | Zheng     | 1992 | Residents of urban Shanghai, China      | Case-control | Male       | 20 75        |                  | Structured interview, Disease registry                                             |
| Nasopharyngeal cancer       | 346030   | Nam       | 1992 | Randomly selected white Americans      | Case-control | Both       | 18 99        |                  | Self-administered questionnaire, Mortality, Vital records                          |
| Kidney cancer               | 355807   | McCredie  | 1992 | Residents of New South Wales, Australia| Case-control | Both       | 20 79        |                  | Self-administered questionnaire, Incidence, Disease registry                      |
| CVD                         | 298316   | Longstreth| 1992 | Residents of King County, Washington, United States | Case-control | Both       | 18 99        |                  | Structured in-person interview, Disease surveillanc e, emergency medical system reports, medical records |
| CVD                         | 294115   | Huhtasaari| 1992 | Male residents of northern Sweden, Sweden | Case-control | Male       | 35 54        |                  | Self-administered questionnaire, Incidence, Physician diagnosis, discharge registers, vital records |
| CVD                         | 464829   | Woo       | 1992 | Chinese patients admitted to a district general hospital in Hong Kong, Hong Kong | Case-control | Both       | 45 69        |                  | Self-administered questionnaire, Hospitalization, Clinical diagnosis, autopsy     |
| Parkinson's disease         | 359162   | Jimenez-Jimenez | 1992 | Population from within a single health area of Madrid, Spain | Case-control | Both       | 18 99        |                  | Interview, Incidence, Medical records                                              |

Patients at the same hospital as the cases who
| disease          | study ID | author | year  | population description                                                                 | study type   | gender | age | study type   | incidence | registry                        | cancer   | Kidney       | Kidney cancer | from the general population of the Shanghai urban area |
|------------------|----------|--------|-------|----------------------------------------------------------------------------------------|--------------|--------|-----|--------------|------------|---------------------------------|----------|--------------|---------------|--------------------------------------------------|
| kidney_cancer    | 502480   | McLaughlin | 1992 | All residents of urban Shanghai, China. Case-control, Both, 35-74. Structured interview | Incidence    | Cancer | registry | Kidney cancer | 223        | 157                             |          |              |               | From the general population of the Shanghai urban area |
| fractures        | 261424   | Kiel   | 1992 | Residents of Framingham, Massachusetts. Prospective cohort, Females, 52-62. Questionnaire | Incidence    | Hospital | registry | Kidney cancer | 207        | 2673                            | Hip fracture |              |               |                                                  |
| lung_cancer      | 355965   | Chyou  | 1993 | American men of Japanese ancestry in Oahu, Hawaii, United States. Prospective cohort, Male, 22-65. Administered interview | Incidence    | Disease | surveillance | Lung cancer | 227        | 733                            |          |              |               |                                                  |
| stroke           | 334028   | Kawachi | 1993 | Nurses' Health Study patients and female registered nurses, United States, Prospective cohort, Females, 12-55. Self-administered questionnaire | Incidence or Mortality | Medical | records, autopsy reports, vital records | Total stroke | 137000    | 448                            | 117006   |              |               |                                                  |
| multiple_sclerosis | 350717  | Villard- Mackintosh | 1993 | Married women, United Kingdom, Prospective cohort, Females, 12-55. Questionnaire | Incidence or Mortality | Clinical | records and diagnosis | Multiple sclerosis | 275867    | 63                             |          |              |               |                                                  |
| rheumatoid_arthritis | 261510 | Heliovaara | 1993 | Urban, rural and factory worker populations of 34 study regions distributed over the whole of Finland. Prospective cohort, Both, 18.6-79. Mailed questionnaire | Incidence | Population | register | Rheumatoid arthritis | 981184    | 512                            | 52809    |              |               |                                                  |
| lung_cancer      | 357757   | Risch  | 1993 | Adults in metropolitan Toronto area and St. Catharine's, Canada. Case-control, Both, 50-79. Administered questionnaire | Incidence    | Clinical | records | Lung cancer | 550        | 1100                            | Population |              |               |                                                  |
| Study | Sample Size | Year | Methodology | Country | Gender | Age Range | Follow-Up | Data Collected | Disease | Outcome | Location |
|-------|-------------|------|-------------|---------|--------|-----------|-----------|----------------|---------|----------|----------|
| Lung cancer | 358161 | Brockmoller | 1993 | Patients from one specialized hospital in Berlin | Germany | Case-control | Both | 32-84 | Administered interviews, Incidence | Clinical records | Lung cancer | 117 | 272 | Hospital |
| Stroke | 358476 | Juvela | 1993 | Patients at the Helsinki University Hospital | Finland | Case-control | Both | 15-60 | Structured administered questionnaire, Hospitalization | Medical records | Aneurysmal subarachnoid hemorrhage | 278 | 314 | Hospitalized patients |
| CVD | 334028 | Kawachi | 1993 | Nurses' Health Study | United States | Prospective cohort | Females | 12-30 | Self-administered questionnaire, Incidence or Mortality | Medical records, Autopsy reports, Vital records | 137000 | 448 | 117006 | Total stroke |
| CVD | 309715 | Primeas | 1993 | Women on Iowa's driver registration list | United States | Prospective cohort | Females | 4-55 | Mailed questionnaire, Mortality | Vital records | 114962 | 93 | 41837 | Ischemic heart disease |
| CVD | 359224 | Freund | 1993 | Residents of Framingham, Massachusetts | United States | Prospective cohort | Both | 34-84 | Self-reported in medical examination, Incidence or Mortality | Physician review of medical records, Hospital records, Vital records | 102578 | 1826 | 4503 | Ischemic heart disease; Cardiovascular diseases |
| CVD | 358476 | Juvela | 1993 | Patients at the Helsinki University Hospital | Finland | Case-control | Both | 15-60 | Structured administered questionnaire, Hospitalization | Medical records | Aneurysmal subarachnoid hemorrhage | 278 | 314 | Hospitalized patients |
| CVD | 120237 | Vogt | 1993 | General female population of Pittsburgh, Pennsylvania | United States | Cross-sectional | Females | 65-93 | Study of Osteoporotic Fractures Questionnaire, Prevalence | Biomarker | 82 | 1491 | Peripheral artery disease |
| Bladder cancer | 502462 | Chyou | 1993 | American men of | Hawaii | Prospective cohort | Male | 22-49 | Interview, Incidence | Hospital surveillance | 175890 | 96 | 7995 | Bladder cancer |
| Disease       | Strengths | Authors  | Year | Study Design | Setting | Cohort | Gender | Age | Data Source | Incidence | Cause of Death | Mortality | Cause of Death | Method | Population | Diagnostic Method | Disease Registry | Relative Risk | Controls | Notes |
|---------------|-----------|----------|------|--------------|---------|--------|--------|-----|-------------|------------|----------------|-----------|----------------|--------|------------|--------|-------------|----------------|----------------|--------------|---------|-------|
| prostate cancer | 347385    | Hiatt    | 1994 | Prospective cohort | United States | Male | 4.6 30 | Questionnaire | Incidence | Insurance disease registry, hospital records | 199254 238 43432 | Prostate cancer |
| stroke         | 343400 344308 | Robbins | 1994 | Prospective cohort | US male physicians | Male | 9.7 40 84 | Postal questionnaire | Incidence or Mortality | Self-reported, medical records, familial reporting | 207579 340 22071 | Total stroke, ischemic stroke, hemorrhagic stroke |
| lri            | 173863    | Doll     | 1994 | Prospective cohort | United Kingdom | Male | 40 18 99 | Self-administered questionnaire | Mortality | Vital records | 864 34439 | Pneumonia |
| tb             | 173863    | Doll     | 1994 | Prospective cohort | United Kingdom | Male | 40 18 99 | Mailed questionnaire | Mortality | Administerative records | 66 10812 | Pulmonary tuberculosis |
| asthma         | 173863    | Doll     | 1994 | Prospective cohort | United Kingdom | Male | 40 18 99 | Self-administered questionnaire | Mortality | Vital records | 70 34439 | Asthma |
| aortic aneurysm| 173863    | Doll     | 1994 | Prospective cohort | United Kingdom | Male | 40 18 99 | Self-administered questionnaire | Mortality | Vital records | 331 34439 | Aortic aneurysm |
| parkinson      | 173863    | Doll     | 1994 | Prospective cohort | United Kingdom | Male | 40 18 99 | Mailed questionnaire | Mortality | Administerative records | 152 10812 | Parkinsonism |
| lung_cancer    | 357765    | Sankaranarayanan | 1994 | Case-control | Kerala, India | Both | 30 99 | Administered interviews | Incidence | Hospital disease registry | Lung cancer 281 1488 | Hospital visitors |
| lung_cancer    | 419667    | Suzuki   | 1994 | Case-control | Brazil | Both | 30 89 | Administered interview | Incidence | Histologic confirmed cases | Lung carcinoma 123 246 | Hospital |
| stroke         | 357445    | Jamrozik | 1994 | Case-control | Australia | Both | 18 99 | Semi-structured | Incidence | Disease registry | First stroke 501 931 | Population |
| Study | ID | First Author | Year | Information | Country | Type | Gender | Sample Size | Measure | Diagnosis | Included in Analysis | Notes |
|-------|----|--------------|------|-------------|---------|------|--------|-------------|---------|------------|----------------------|-------|
| stroke | 358540 | Hannaford | 1994 | Participants of the RCGP Oral Contraception Study recruited by general practitioners | United Kingdom | Nested case-control | Female | 21 | Medical records | Incidence | Physician-reported | First stroke (ICD-8 4300-4389) or amaurosis fugax (ICD-8 3791) | Clinic patients |
| stroke | 358652 | Carrieri | 1994 | Italian male patients in the Department of Neurology | Italy | Case-control | Male | 40 | Admission interview | Hospitalization | Medical diagnosis, including CT scan | First incidence of ischemic stroke | Hospitalized patients |
| tb | 298340 | Buskin | 1994 | Population who would visit a tuberculosis clinic in King County, Washington | United States | Case-control | Both | 18 | Self-administered questionnaire | Incidence | Physician diagnosis | Tuberculosis | King County, Washington residents older than 17 years of age seeking care at the same tuberculosis clinic as the cases |
| alzheimer_other_dementia | 358836 | Prince | 1994 | Adults recruited from the UK Medical Research Council elderly hypertensio n treatment trial | United Kingdom | Case-control | Both | 72 | Self-administered questionnaire | Incidence | Clinical records | Dementia | Clinic based |
| parkinson | 359164 | Morano | 1994 | Mixed urban and rural population in Caceres province of Spain | Spain | Case-control | Male | 18 | Administered questionnaire | Incidence | Medical records | Parkinson's disease | Subjects presenting to the emergency room because of minor, non-
| Study | Code | Authors | Year | Population | Design | Gender | Age | Method | Disease | Source | Disease Incidence | Cancer Incidence |
|-------|------|---------|------|------------|--------|--------|-----|--------|---------|--------|------------------|-----------------|
| esophageal_cancer | 309841 | Gao | 1994 | Permanent residents of urban Shanghai | Case-control | Both | 30 | Structured, standardized questionnaire | Incidence | Disease registry | Esophageal cancer | 556 | 799 | Population |
| stomach_cancer | 340578 | Guo | 1994 | General population without disabilities or cancer residing in four of Linxian county's four communes | Nested case-control | Male | 40 | Interview | Incidence | Physician diagnosis, medical records | Stomach cancer (cardia and non-cardia) | 539 | 2695 | Randomly-selected from the remainin study cohort who did not develop cancer |
| pancreati c_cancer | 447176 | Silverman | 1994 | Residents from Atlanta, GA, Detroit, MI, and New Jersey | Case-control | Both | 30 | Personal interview | Incidence | Medical records | Carcinoma of the pancreas (ICD 157) | 526 | 2153 | General population |
| fractures | 414227 | Mallmin | 1994 | Residents of Uppsala | Case-control | Female | 40 | Mailed questionnaire | Incidence | Radiology reports and casualty reports | Distal forearm fracture | 367 | 367 | Population |
| fractures | 414229 | Cumming | 1994 | Elderly residents of Sydney | Case-control | Both | 65 | Administered questionnaire | Incidence | Medical reports | Hip fracture | 209 | 207 | Population |
| cvd | 282925 | Bolinder | 1994 | Swedish Construction Industry's Organization for Working Environment Safety | Prospective cohort | Male | 12 | Administered questionnaire | Mortality | Vital records | Ischemic heart disease; Stroke | 1285 | 19426 | |
| cvd | 335809 | Kawachi | 1994 | Nurses' Health Study | Prospective cohort | Female | 12 | Questionnaire | Incidence or Mortality | Self-reported, medical | Ischemic heart disease | 137000 | 970 | 121700 | |
| Study | ID | Authors | Year | Study Design | Country | Gender | Age Range | Method of Data Collection | Outcome | Number of Cases | Number of Controls | Details |
|-------|----|---------|------|--------------|---------|--------|-----------|--------------------------|----------|----------------|-----------------|---------|
| parkinson | 173863 | Doll | 1994 | British Doctors' Study | United Kingdom | Male | 18-99 | Mailled questionnaire | Mortality | Administrative records | 152 | 10812 | Parkinsonism |
| parkinson | 359164 | Morano | 1994 | Prospective cohort | Spain | Male | 18-99 | Administered questionnaire | Incidence | Medical records | 33 | 66 | Parkinson's disease |
| bladder cancer | 502458 | Siemiatycki | 1994 | Case-control | Montreal, Canada | Male | 35-70 | Interview or questionnaire | Incidence | Biomarker | 484 | 2238 | Bladder cancer |
| kidney cancer | 502441 | Mellemgaard | 1994 | Case-control | Denmark | Both | 20-79 | Structured questionnaire | Incidence | Cancer registry | 368 | 396 | Kidney cancer |
| fractures | 261365 | Forsen | 1994 | Prospective cohort | Nord-Trøndelag, Norway | Both | 2.8-50 | Questionnaire | Incidence | Hospital records | 108907 | 524 | 38356 | Hip fracture |

Subjects presenting to the emergency room because of minor, non-neurological ailments or to neurology clinics with functional CNS pathology.

Cancer patients, individuals from electoral lists in the Montreal area and random digit dialing.

From the Central Population Register.
| Study Type | Study ID | Reference | Year | Country/Region | Source | Sample Information | Study Information | Sex | Age | Disease | Disease Registry | Disease Rate | Disease Rate | Disease Rate |
|------------|----------|-----------|------|----------------|--------|--------------------|-------------------|-----|-----|----------|-----------------|-------------|-------------|-------------|
| Fractures  | 315458   | Lobo 1994 | Spain | Sample drawn from Zarazoga Dementia and Depression Project | Both | 16 | 55 | 99 | Interview | Incidence | Disease registry | 76,848 | 275 | 4803 | Hip fracture |
| Fractures  | 261387   | Hemenwa y 1994 | United States | Male health professionals aged 40-75 years of age in 1986 | Male | 5.4 | 40 | 75 | Questionnaire | Incidence | Self-reported | 271484 | 67 | 49895 | Hip fracture |
| Lung cancer | 502458   | Siemiatyk i 1994 | Quebec, Canada | Patients admitted to the hospital with lung cancer at the Graduate Institute of Medical Education and Research (PGIMER), Chandigarh. | Male | | | | | Incidence | Hospital records | | | | Lung cancer |
| IBD        | 356109   | Watt 1995 | United Kingdom | Residents of Paisley and Renfrew, Scotland | Both | 15 | 45 | 64 | Unspecified | Mortality | Vital records | 1567 | 15411 | | Coronary heart disease (ICD 410-414) |
| Asthma     | 346743   | Troisi 1995 | United States | Female registered nurses | Female | 10 | 30 | 55 | Self-administered questionnaire | Incidence | Physician diagnosis | 692423 | 671 | 74072 | Asthma |
| Diabetes   | 348079   | Rimm 1995 | United States | Male health professionals in the US | Male | 6 | 40 | 75 | Self-administered questionnaire | Incidence | Self-report, medical records | 230769 | 509 | 41810 | Non-insulin-dependent diabetes mellitus |
| Liver cancer | 343580   | Siemiatyk i 1995 | Canada | Males residing in the Montreal metropolitan area | Male | 35 | 70 | | Personal interviews | Incidence | Histologically confirmed cases | | | | Liver cancer |
| Liver cancer | 343632   | Tanaka 1995 | Japan | Cases and controls pooled from three studies in the Fukouka, | Male | 35 | 79 | | Personal interviews | Incidence | Physician diagnosed | | | | Hepatocellular carcinoma |
| Disease                        | Reference | Year | Study Design | Gender | Age | Method | Source of Cases | Method of Incidence | Methodology | Population Size | Country/Region |
|-------------------------------|-----------|------|--------------|--------|-----|--------|-----------------|---------------------|-------------|----------------|----------------|----------------|
| Nasopharyngeal cancer         | Zhu 1995  | 1995 | Case-control | Male   | 15-39 | Personal interview | Disease registry   | Nasopharyngeal cancer | 113-1910   | General population |
| Lip/oral cavity cancer        | Macfarlane 1995 | 1995 | Case-control | Both   | 18-99 | Subject interview | Histologically confirmed diagnoses | Oral cancer | 835-1300 | Hospital patients and general population |
| Pancreatic cancer             | Ji 1995   | 1995 | Case-control | Both   | 30-74 | Personal interview | Disease registry, histopathologically confirmed cases | Pancreatic cancer | 451-1552 | General population |
| Kidney cancer                 | Schlehofer 1995 | 1995 | Case-control | Both   | 20-75 | Personal interviews | Histologically confirmed cases | Renal cell cancer (ICD 9: 189.0) | 277-286 | General population |
| Kidney cancer                 | Muscat 1995 | 1995 | Case-control | Both   | 18-99 | Administered questionnaire | Histologically confirmed cases | Renal cell carcinoma (ICD 9: 189.0) | 788-779 | Hospital patients |
| CVD                           | Wanamethee 1995 | 1995 | Prospective cohort | Male | 8-40-59 | Administered questionnaire | Mortality, Doctor report, vital records | Ischemic heart disease | 488-7735 | British Regional Heart Study |
| Esophageal cancer             | Siemiatycki 1995 | 1995 | Case-control | Male | 35-70 | Interview or questionnaire | Biomarker | Esophageal cancer | 99-2238 | From electoral lists in the |
| Cancer Type            | Study ID      | Study Year | Study Design         | Region                          | Case-control | Male/Female | Age Range | Data Collection Method | Biomarker type       | Biomarker from   | Reference       |
|-----------------------|---------------|------------|-----------------------|---------------------------------|--------------|-------------|-----------|------------------------|----------------------|------------------|----------------|
| Stomach cancer        | 343580        | 1995       | Case-control          | Montreal, Canada                 | Male         | 35-70       | Interview or questionnaire | Incidence          | Biomarker         | Siemiatycki     |
| Liver cancer           | 343580        | 1995       | Case-control          | Montreal, Canada                 | Male         | 35-70       | Interview or questionnaire | Incidence          | Biomarker         | Siemiatycki     |
| Colon and rectum cancer| 343580        | 1995       | Case-control          | Montreal, Canada                 | Male         | 35-70       | Interview or questionnaire | Incidence          | Biomarker         | Siemiatycki     |
| Bladder cancer         | 343580        | 1995       | Case-control          | Montreal, Canada                 | Male         | 35-70       | Interview or questionnaire | Incidence          | Biomarker         | Siemiatycki     |
| Kidney cancer          | 502478        | 1995       | Case-control          | Australia, Denmark, Germany, Sweden, United States | Both         | 20-79       | Interview             | Incidence          | Cancer registry and hospitals/pathologists | McLaughlin      |
| Study | Study ID | Authors | Year | Population Details | Study Design | Gender | Age Range | Data Collection Method | Incidence Measure | Cancer Type | Description |
|-------|---------|---------|------|---------------------|--------------|--------|------------|----------------------|------------------|-------------|-------------|
| Kidney cancer | 343580 | Siemiatycki | 1995 | Males in the Montreal metropolitan area | Case-control | Male | 35-70 | Interview or questionnaire | Incidence | Kidney cancer | From electoral lists in the Montreal area |
| Fractures | 261418 | Cummings | 1995 | Women who were able to walk and at least 65 years old contacted through mailings lists | Prospective cohort | Female | 4.1-65 | Questionnaire | Incidence | Hip fracture | |
| Fractures | 498453 | Johnell | 1995 | Men and women aged 50 years or over from 14 centers in six countries in Southern Europe | Case-control | Both | 50-100 | Standardized interviews | Incidence | Hip fracture | Population |
| Fractures | 498446 | Tavani | 1995 | Postmenopausal women | Case-control | Female | 45-74 | Standardized interviews | Incidence | Hip fracture | Hospital |
| Lung cancer | 343580 | Siemiatycki | 1995 | "Department of Pulmonary Medicine of Post Quebec, Canada" | Case-control | Male | 35-70 | administered interview | Incidence | Hospital records | Lung cancer (ICD C33-C34) |
| Pancreatic cancer | 343580 | Seimiatycki | 1995 | Quebec, Canada | Case-control | Male | 35-70 | self-report | Incidence of pancreatic cancer | Administrative medical records or disease registries | Pancreatic Cancer |
| IHD | 328472 | Yuan | 1996 | Male residents of Shanghai | Prospective cohort | Male | 5.4-45 | Structured interviews | Mortality | Vital records | Ischemic heart disease (ICD-9 410-414) |
| Asthma | 111344 | Strachan | 1996 | British national child development study | Prospective cohort | Both | 33-17 | Administrator interview by proxy | Incidence | Self-reported | Asthma or wheezing |
| Study Type          | Study ID | Year | Study Name                                      | Country        | Gender(s) | Age Range | Diagnoses                          | Methods                        | Incidence          | Controls                  | Notes                                      |
|---------------------|----------|------|------------------------------------------------|----------------|-----------|-----------|------------------------------------|-------------------------------|--------------------|---------------------------|--------------------------------------------|
| Pancreatic cancer   | 346826   | 1996 | Health Professionals Follow-up Study (HPFS)   | United States  | Both      | 12-67    | Pancreatic cancer                   | Self-administered questionnaire | 2116229            | 186                       | 167767 Pancreatic cancer                   |
| Macular degeneration| 261355   | 1996 | Physicians' Health Study                      | United States  | Male      | 20-75   | Age-related macular degeneration    | Medical record review          | 258115             | 268                       | 21157 Age-related macular degeneration    |
| Macular degeneration| 359130   | 1996 | Nurses' Health Study                          | United States  | Female    | 12-75   | Age-related macular degeneration    | Self-report and medical record review | 556338             | 215                       | 31843 Age-related macular degeneration    |
| Lung cancer         | 357400   | 1996 | De Stefani                                    | Uruguay        | Male      | 25-84   | Lung cancer                         | Clinical records              | 497                | 994                       | Hospital                                   |
| Lung cancer         | 357402   | 1996 | Lei                                            | China          | Male      | 18-99   | Lung cancer                         | Vital records                 | 792                | 1376                      | Population                                  |
| Lung cancer         | 358338   | 1996 | Cascorbi                                      | Germany        | Both      | 17-84   | Lung cancer                         | Clinical records              | 389                | 1046                      | Hospital                                   |
| Lung cancer         | 419669   | 1996 | De Stefani                                    | Uruguay        | Both      | 30-89   | Lung cancer                         | Clinical, radiological, and endoscopic diagnoses | 320                | 640                       | Hospital                                   |
| COPD                | 356344   | 1996 | Perez-Padilla                                 | Mexico         | Female    | 40-99   | Chronic airflow obstruction (CAO), defined as | Interview                      | 127                | 375                       | Controls were selected from among four     |
| Study Type | Study Description | Year | Country | Control Type | Exposure | Follow-up | Outcome | Methods | Results |
|------------|-------------------|------|---------|--------------|----------|-----------|---------|---------|---------|
| ihd        | Adults of South Asian descent | 1996 | India   | Case-control | Both     | 30-60     | Hospitalization, ECG results and Clinical diagnosis | FEV1 < 75% | groups at the hospital: patients with pulmonary tuberculosis, patients with interstitial lung disease, patients with ear, nose, and throat ailments, and healthy visitors |
| liver_cancer | Patients admitted to the Inje University Pusan Paik Hospital | 1996 | Republic of Korea | Case-control | Both | 18-99 | Personal interviews, Histologically confirmed cases, angiography, liver scanning, tomography, and magnetic resonance imaging | Acute myocardial infarction | 200 200 Hospital based |
| breast_cancer | General population of Geneva | 1996 | Switzerland | Case-control | Female | 18-74 | Personal interview, First diagnosis of invasive breast cancer | Cancer Registry of Canton Geneva | 244 1032 Female resident of Geneva without previous breast cancer aged 30-74 years |
| nasopharyngeal_cancer | Cases from disease registries in United States | 1996 | United States | Case-control | Both | 18-74 | Personal interview, Nasopharyngeal cancer | Disease registry | 231 244 General population |
| Study ID | First Name | Year | Location/Details | Case-control | Case Series | Methodology | Incidence | Medical Record Review | Clinical Details | Study Details |
|----------|------------|------|------------------|--------------|-------------|-------------|-----------|----------------------|----------------|---------------|
| pancreatic_cancer | Lee | 1996 | Inpatients at the Veterans General Hospital-Taipei | Both | Case-control | 18 99 | Medical record review | Incidence | Clinical records, histological confirmed cases | (ICD-O 147) | Pancreatic cancer | 282 282 | Hospital based |
| cataracts | Phillips | 1996 | Patients at the Princess Alexandra Eye Pavilion, Edinburgh, UK | Both | Case-control | 10 99 | Administered questionnaire | Incidence | Physician diagnosis | Cataract | 996 996 | Hospital based |
| peptic_ulcer | Wang | 1996 | Factory workers in Shanghai | Both | Case-control | 18 99 | Interview | Incidence | Confirmed by endoscopy or gastrointestinal examination | New or recurrent peptic ulcer within the past two years | 500 500 | Randomly chosen among factory workers without peptic ulcer |
| cvd | Iribarren | 1996 | Kaiser Permanente Medical Care Program | Both | Prospective cohort | 16 40 89 | Health examination | Hospitalization or Mortality | Hospital discharge records, vital records | Intracerebral hemorrhage | 386 61756 |
| cvd | Njolstad | 1996 | Residents of Finnmark county | Both | Prospective cohort | 14 20 49 | Questionnaire | Incidence or Mortality | Hospital discharge records, medical records, vital records | Stroke; Subarachnoid hemorrhage; Intracerebral hemorrhage; Ischemic stroke | 187336 241 13266 |
| cvd | Haheim | 1996 | Men living in Oslo | Male | Prospective cohort | 18 40 49 | Screening questionnaire | Mortality | Vital records | Stroke | 273940 85 16173 | Stroke |
| CVD | Code | Author | Year | Region | Study Design | Gender | Age Range | Data Source | Disease Registry | Mortality | Population |
|-----|------|--------|------|--------|-------------|--------|-----------|-------------|-----------------|-----------|------------|
| cvd | 464113 | Whisnant | 1996 | United States | Nested case-control | Both | 50-90 | Medical records | Incidence | Disease registry, medical records | Ischemic stroke | 1444 | 1444 |
| cvd | 465004 | Ogren | 1996 | Sweden | Cross-sectional | Male | 68 | Questionnaire | Prevalence | Biomarker | Peripheral artery disease | 129 |
| fractures | 261433 | Torgerson | 1996 | Aberdeen, Scotland | Prospective cohort | Female | 2-45 | Self-administered questionnaire | Incidence | Self-report | Fracture |
| lung_cancer | 358717 | Yong | 1997 | United States | Prospective cohort | Both | 22-74 | Administered interviews and questionnaires | Incidence | Hospital records and death certificates | Lung cancer (ICD-9 162) |
| prostate_cancer | 165618 | Veierod | 1997 | Norway | Prospective cohort | Male | 12-45 | Questionnaire | Incidence | Disease registry, vital records | Prostate cancer |
| prostate_cancer | 347435 | Rodriguez | 1997 | United States | Prospective cohort | Male | 9-30 | Self-administered questionnaire | Mortality | Vital records | Prostate cancer |
| ihd | 328274 | Chen | 1997 | China | Prospective cohort | Male | 16-35 | Standardized interview | Mortality | Factory records, vital records, hospital records, interviews | Coronary heart disease (ICD-9 410-414) |
| diabetes | 309588 | Kawakami | 1997 | Japan | Prospective cohort | Male | 8-18 | Self-administered questionnaire | Incidence | Physician diagnosis | Non-insulin-dependent diabetes mellitus |
| pancreatic_cancer | 346028 | Harnack | 1997 | Iowa Women's Health Study (IWHS) | Postmenopausal women in Iowa | Iowa, United States | Prospective cohort | Femal e | 9 | 55 | 69 | Self-administered questionnaire | Incidence & Mortality | Vital records, disease registry | 291598 | 66 | 33976 | Pancreatic cancer |
|-------------------|-------|---------|------|--------------------------------|-----------------------------|----------------------|--------------------|---------|---|---|-----|---------------------|---------------------|------------------------|-----------------|-----|-------|-----------------|
| cataracts        | 261527 | Hiller  | 1997 | Framingham Eye Study | Surviving members of the Framingham Eye Study I and II | United States | Prospective cohort | Both | 12.5 | 52 | 80 | Personal examination | Incidence | Physician diagnosis | 251 | 660 | Nuclear, Cortical and Posterior-subcapsular lens opacity |
| peptic_ulcer     | 349381 | Aldoori | 1997 | Health Professionals Follow-up Study (HPFS) | Male health professionals who resided in the fifty US states | United States | Prospective cohort | Male | 5.5  | 40  | 75  | Baseline survey questionnaire | Incidence | Self-administered follow-up questionnaire, medical records | 261165 | 138 | 47806 | Duodenal ulcer |
| prostate_cancer  | 165518 | Cerhan  | 1997 | Iowa 65+ Rural Health Study | Noninstitutionalized residents age 65 years old or older of Iowa and Washington counties in Iowa | United States | Prospective cohort | Male | 8.1  | 65  | 101 | Interview | Incidence | State Health Agency of Iowa's cancer database | 8474 | 71 | 1050 | Prostate cancer |
| lung_cancer      | 298142 | Dosemeci | 1997 | Non-civil servant employees | Turkey | Case-control | Male | 18  | 99  | | Administrative medical records | Incidence | Administrative medical records | 1210 | 2039 | Lung cancer |
| lung_cancer      | 357367 | Jockel  | 1997 | Patients and population controls from Bremen and Frankfurt/Main | Germany | Case-control | Both | 33  | 80  | | Administered interview | Incidence | Clinical records of histologically or cytologically confirmed cancerous legions | 1004 | 2008 | Lung cancer |
| lung_cancer      | 357404 | Pawlega | 1997 | Male lung cancer patients and adults in the electoral roll | Poland | Case-control | Male | 30  | 99  | | Self-administered questionnaire | Incidence | Disease registry of histologically confirmed cases | 176 | 517 | Population |
| Study ID | Authors | Year | Study Population | Country | Study Design | Gender(s) | Sample Size | Method(s) | Effect Measure(s) | Disease(s) | Controls | Country(s) | Cancer(s) | Control(s) |
|----------|---------|------|------------------|---------|--------------|-----------|-------------|------------|------------------|-------------|----------|------------|-----------|------------|
| lung_can 357437 | Barbone | 1997 | Adults in the province of Trieste | Italy | Case-control | Male | 36 | Structured interview | Mortality | Autopsy reports | Lung cancer | 755 | 755 | Population |
| lung_can 419671 | Hu | 1997 | Hospital-based cases and controls from Heilongjiang Province in China | | Case-control | Both | 18 | Administered interviews and questionnaires | Incidence | Histological confirmed cases | Lung cancer | 227 | 454 | Hospital |
| laryngeal_cancer 298142 | Dosemeci | 1997 | Employees in the Marmara region, except for civil servants | Turkey | Case-control | Male | 18 | Standardized admission form | Incidence | Patient records, Histologic confirmation | Laryngeal cancer | 832 | 829 | Cancer patients unrelated to smoking or alcohol |
| fractures 414223 | Mortiz | 1997 | White and Black women in New York City or Philadelphia | United States | Case-control | Female | 45 | Standardized interviews | Incidence | Radiology reports | Hip fracture | 425 | 766 | Hospital and Community |
| cvd 429870 | Ross | 1997 | Male residents from Shanghai | China | Nested case-control | Male | 45 | Interview | Mortality | Vital records | Stroke | 245 | 1225 | Cohort population |
| cvd 464302 | Kabota | 1997 | Patients from 48 hospitals around Japan | Japan | Case-control | Both | 31 | Self-administered questionnaire | Incidence | Clinical records | Subarachnoid hemorrhage; Intracerebral hemorrhage; Ischemic stroke | 502 | 502 | Hospital |
| cvd 464726 | You | 1997 | Patients from Austin, Royal Melbourne, Box Hill, Preston, and Northcote community hospitals in Melbourne | Australia | Case-control | Both | 15 | Interview | Incidence | Clinical diagnosis | Ischemic stroke | 201 | 201 | Population |
| cvd 464839 | Lee | 1997 | Subjects recruited from the United Kingdom (Scotland) | United Kingdom (Scotland) | Nested case-control | Both | 55 | Self-administered questionnaire | Incidence | Vital records, Aortic aneurysm | | 40 | 200 | Population |
| Study                                    | Location          | Methodology         | Sample Size | Follow-Up | Outcomes          | Additional Information                                                                 |
|-----------------------------------------|-------------------|---------------------|-------------|-----------|-------------------|----------------------------------------------------------------------------------------|
| Edinburgh Artery Study                  |                   | cases presenting between 1988 to 1989 in a hospital in the Beijing area | China       | case-control | Both              | histological confirmation of tongue cancer using medical records or disease registries | Lip and Oral Cavity Cancer | 159 | 348 | population    |
| bladder_cancer                          |                   | Patients who received surgery for tumour removal and patients with non-urinary system and non-neoplastic diseases | Heilongjiang, China | Case-control | Both              | Interview Incidence Biomarker                                                            | Bladder cancer | 127 | 254 | Patients with non-urinary system and non-neoplastic diseases |
| fractures                               |                   | Men aged 45 years and older with a radiologically confirmed diagnosis of a first hip fracture | United States | Case-control | Male              | Administered questionnaire Incidence Medical reports                                  | Hip fracture | 356 | 402 | Men randomly selected from lists of enrollees in the Kaiser Permanente Medical Care program of Northern California |
| lung_cancer                             |                   | Adult residents of study townships and precincts | Taiwan       | Prospective cohort | Both              | Administered interview Mortality Vital records                                        | Trachea, bronchus, and lung cancer | 140493 | 127 | 14397 |                                                                 |
| stroke                                  |                   | Adults in the Copenhagen area | Denmark      | Pooled prospective cohort | Both              | Self-administered questionnaire Mortality Vital records                               | Cerebrovascular disease (ICD 430-438) | 453000 | 548 | 30809 |                                                                 |
| Study Type                      | Study Name                                                                 | Location                        | Sex       | Age   | Year | Data Collection Method                  | Data Validation Method                  | Cases | Controls | Study Description                                                                 |
|--------------------------------|----------------------------------------------------------------------------|---------------------------------|-----------|-------|------|----------------------------------------|----------------------------------------|-------|----------|-----------------------------------------------------------------------------------|
| Multiple sclerosis             | Copenhagen Male Study                                                     | Denmark                         | Married   | United Kingdom | Prospective cohort | Femal | 18 99 | Standardized questionnaire Incident episode                                      | Clinical diagnosis                       | 563907| 114      | Multiple sclerosis                                                                  |
| Esophageal cancer              | Thorogood 1998                                                             | Royal College of General Practitioners Oral Contraception Study | Married   | United Kingdom | Prospective cohort | Both  | 9.8 41 99 | Standardized interview Mortality Vital records, medical records                   | 140493| 27       | Esophageal cancer                                                                  |
| Liver cancer                   | Liaw 1998                                                                  | Residents of 12 townships and precincts in Taiwan | Both 9.8 40 99 | Personal interview Mortality Vital records | 140493| 128 14397 | Liver cancer (ICD-9)                                                              |
| Nasopharyngeal cancer          | Liaw 1998                                                                  | Residents in 12 townships and precincts in Taiwan | Both 9.8 41 99 | Personal interview Mortality Vital records | 140493| 18 14397  | Nasopharynx cancer (ICD-9)                                                        |
| Gallbladder diseases           | Sahi 1998                                                                  | Harvard Alumni Health Study     | Male 61 32 74 | Interview Incidence Self-reported physician diagnosis and validated by contacting the physician | 685 16785 | Gallbladder disease                   |
| Fractures                      | Jacqmin-Gadda 1998                                                         | The Paquid study                | Both 5 65 99 | Structured interviews Incidence Self-reported, physician confirmed | 12886 306 3216 | Fracture                           |
| Lung cancer                    | Wunsch-Filho 1998                                                          | Hospital based cases and controls in Sao Paolo | Both 33 90 | Administered questionnaire Incidence Clinical records of histologically or cytologically confirmed | Lung cancer 398 1258 Hospital |
| Study Type       | Study ID | Study Details                                                                 | Country | Study Design | Study Group | Sex | Sample Size | Age Range | Methods               | Findings                                    |
|-----------------|----------|--------------------------------------------------------------------------------|---------|--------------|-------------|-----|-------------|------------|-----------------------|---------------------------------------------|
| Lung Cancer     | 357447   | Patients and residents in the Province of Buenos Aires                          | Argentina | Case-control | Male        | 30  | 99          | Incidence  | Clinical records      | Lung cancer                                |
|                | 357451   | Hospital-based cases and controls in Montevideo that were residents of Uruguay for more than 10 years | Uruguay | Case-control | Male        | 30  | 89          | Incidence  | Clinical records      | Adenocarcinoma of the lung                 |
|                | 419675   | Cases and population controls from several regions in East and West Germany     | Germany | Case-control | Both        | 18  | 69          | Incidence  | Histologically confirmed cases | Lung cancer                                |
| T b             | 236195   | Population living in urban and rural areas across China                          | China   | Case-control | Male        | 35  | 69          | Mortality  | Administrative records, medical records, proxy informants | Respiratory tuberculosis                   |
| Stomach Cancer  | 340513   | Admitted patients of four hospitals in Montevideo                               | Uruguay | Case-control | Male        | 25  | 84          | Incidence  | Microscopically confirmed diagnosis | Adenocarcinoma of the stomach               |
| Study | ID | Year | Authors | Country/Location | Study Design | Gender | Age | Study Method | Cause of Disease | Cases | Controls |
|-------|----|------|---------|-----------------|--------------|--------|-----|--------------|-----------------|-------|----------|
| breast cancer | 310463 | 1998 | Gammon | United States | Case-control | Female | 18-54 | Interview | Incidence | Physician diagnosis | In situ and invasive breast cancer | 1497 | 1645 |
| other pharynx cancer | 343450 | 1998 | De Stefani | Uruguay | Case-control | Male | 25-84 | Subject interview | Incidence | Microscopically-confirmed diagnosis | Paryngeal cancer (oropharynx, hypopharynx, pharynx unspecified) | 219 | 427 |
| cvd | 464556 | Prescott, 1998 | Residents of central Copenhagen, Copenhagen suburbs, and 14 large workspaces in Copenhagen | Denmark | Pooled prospective cohort | Both | 12.3 | 20 | 93 | Self-administered questionnaire | Hospitalization or Mortality | Hospital discharge records, national health database | 1763 | 24663 | Ischemic heart disease |
|------|--------|----------------|-----------------------------------------------------------------|--------|--------------------------|------|------|----|----|-----------------------------|-----------------------------|---------------------------------|-------|-------|---------------------------|
| cvd | 464945 | Adlerberth, 1998 | Male residents of Gothenburg born between 1915 and 1925, except those born in 1923 | Sweden | Prospective cohort | Male | 16 | 51 | 59 | Postal questionnaire | Mortality | Vital records | 1725 | 7100 | Ischemic heart disease |
| cvd | 464095 | Feigin, 1998 | Residents of the district of Novosibirsk Russian population | Russia | Case-control | Both | 50 | 90 | Interview | Incidence | Disease registry, vital records, clinical records | Ischemic stroke | 237 | 237 | Population |
| cvd | 465267 | Hooi, 1998 | General population of the province of Limburg | The Netherlands | Cross-sectional | Both | 40 | 78 | Self-administered questionnaire | Prevalence | Biomarker | 458 | 3650 | Peripheral artery disease |
| lip_oral_cavity_cancer | 502352 | Su, WZ, 1998 | Patients diagnosed with squamous cell carcinoma between March, 1989 and September, | China | case-control | Male | 27 | 82 | self-report | Incidence of oral cavity cancer | Physician diagnosis | Lip and Oral Cavity Cancer | 101 | 101 | Population |
| Disease          | Study Name                           | Country/Region                                      | Design       | Study Type   | Sample Size | Outcome Measurement         | Data Sources                  | Year | 
|------------------|--------------------------------------|-----------------------------------------------------|--------------|--------------|--------------|-----------------------------|--------------------------------|------| 
| Bladder cancer   | Taylor 1998                          | United States                                      | Case-control | Both         | 4502429      | Structured interview        | Incidence or Mortality         | 1998 | 
| Fractures        | Mussolino 1998                       | United States                                      | Prospective  | Both         | 261411       | Questionnaire               | Hospital records and death certificates | 1998 | 
| Fractures        | Elmståhl 1998                        | Malmo, Sweden                                       | Prospective  | Male         | 261426       | Questionnaire               | Hospital records              | 1998 | 
| Fractures        | Clark 1998                           | Mexico                                             | Case-control | Both         | 498427       | Administered questionnaire  | Incidence or Mortality         | 1998 | 
| Lung cancer      | Nordlund 1999                        | Sweden                                             | Prospective  | Both         | 334460       | Administered interviews and questionnaires | Incidence or Mortality         | 1998 | 
| IHD              | Jacobs 1999                          | United States, Finland; Netherlands; Italy; Croatia; Serbia; Greece; Japan | Prospective  | Male         | 165539       | Standardized questionnaire  | Mortality                      | 1998 | 
| Stroke           | Hart 1999                            | United Kingdom                                     | Prospective  | Both         | 334731       | Self-administered questionnaire | Mortality                      | 1998 |
| Condition | Study Code | Last Name | Year | Study Description | Gender | Age Range | Cases | Controls | Data Collection Method | Outcomes | Cases | Controls | Notes |
|-----------|------------|-----------|------|-------------------|--------|-----------|-------|----------|------------------------|----------|-------|----------|-------|
| Stroke   | 165539     | Jacobs    | 1999 | The Seven Countries Study | Men in 16 cohorts in 7 countries | Male | 25-59 | 59 | Standardized questionnaire | Mortality | Medical records, vital records, proxy interviews | 797 | 12763 | Stroke |
| Diabetes | 348081     | Uchimoto  | 1999 | Osaka Health Survey | Male employees of a company in Osaka, Japan | Male | 16-60 | 60 | Self-administered questionnaire | Incidence | Physician diagnosis | 60904 | 450 | Type 2 diabetes mellitus |
| LBP      | 348204     | Feldman   | 1999 | High school students in grades 7 to 9 in Montreal, Quebec | Both | 1-15 | 15 | Self-administered questionnaire | Incidence | Self-administered questionnaire | 65 | 377 | Low back pain occurring at a frequency of at least once a week within the past 6 months |
| Prostate cancer | 347458 | Giovannucci | 1999 | Health Professionals Follow-up Study | United States male dentists, optometrists, osteopaths, podiatrists, pharmacists, and veterinarians | Male | 7.4-75 | 75 | Self-administered questionnaire | Incidence & Mortality | Self-report, proxy report, medical records | 351261 | 1369 | 47781 | Non-stage A1 cases of prostate cancer |
| Fractures | 261429     | Kato      | 1999 | New York University Women's Health Study | Post-menopausal women that received a mammographic screening in New York City or Florida between 1985 and 1991 | Female | 8.6-65 | 65 | Self-administered questionnaire | Incidence | Self-reported | 1025 | 6250 | Fracture |
| Study | Year | Country | Setting | Gender | Age Range | Methodology | Disease | Disease Code | Incidence | Follow-up | Outcome Measure |
|-------|------|---------|---------|--------|-----------|-------------|---------|--------------|-----------|-----------|----------------|
| lung_cancer | 1999 | Canada | Nested case-control | Male | 20-99 | Self-administered questionnaire | Incidence | Disease registry (ICD-9 162) | 2998 | 7265 | Lung cancer |
| lung_cancer | 1999 | Spain | Case-control | Male | 30-79 | Administered interviews and questionnaires | Incidence | Histologically or cytologically confirmed cases | 325 | 650 | Hospital |
| prostate_cancer | 1999 | United States | Prospective cohort | Male | 9-40 | Mailed questionnaire or telephone interview | Incidence | Disease registry | 81 | 1177 | Prostate cancer |
| ihd | 1999 | United Kingdom | Case-control | Female | 16-44 | Interviews | Hospitalization or Mortality | Hospital records, vital records | Incident myocardial infarction | 448 | 1728 | Community |
| ihd | 1999 | United Kingdom | Case-control | Female | 21-69 | Self-administered questionnaire | Incidence | Self-reported, medical records | Coronary heart disease | 352 | 1760 | Population |
| ihd | 1999 | Italy | Pooled case-control | Both | 18-74 | Administered questionnaire | Hospitalization | Clinical diagnosis | First non-fatal acute myocardial infarction | 1230 | 1839 | Hospital |
| stroke | 1999 | New Zealand | Case-control | Both | 35-74 | Administered questionnaire | Incidence | Disease registry | First acute stroke | 521 | 1851 | Population survey |
| stroke | 1999 | Australia | Case-control | Both | 18-80 | Structured administered questionnaire | Incidence | Vital records, Medical records | First intracerebral hemorrhage | 331 | 331 | Population |
| lri | 1999 | Spain | Case-control | Both | 15-75 | Administered questionnaire | Incidence | Radiologic diagnosis | Pneumonia | 205 | 475 | General population |
| aortic_aneurism | 1999 | United Kingdom | Nested case-control | Male | 50-89 | Self-administered questionnaire | Incidence | Physician diagnosis | Abdominal aortic aneurysm | 210 | 237 | General population |
| laryngeal_cancer | 343375 | Schlecht 1999 | Residents of three metropolitan centres of southern Brazil | Brazil | Case-control | Both | 15 | 84 | Blinded histological questionnaire | Incidence | Histologic confirmation | Laryngeal cancer | 194 | 361 | Hospital-based |
|------------------|-------|---------------|-------------------------------------------------|--------|--------------|------|----|----|----------------------------------|----------|----------------------|----------------|------|------|-------------------|
| cervical_cancer  | 347864 | Ylitalo 1999  | Female residents of Uppsala county               | Sweden | Nested case-control | Femal e | 25 | 49 | Structured phone questionnaire | Incidence | Disease registry     | Cervical carcinoma in situ | 422 | 422 | Cytology register   |
| nasopharyngeal_cancer | 346047 | Cheng 1999   | Residents recruited from hospitals and the community in Taipei | Taiwan | Case-control | Both | 15 | 74 | Self-administered questionnaire | Incidence | Histologically confirmed cases | Nasopharyngeal carcinoma | 375 | 327 | General population |
| cvd               | 165539 | Jacobs 1999  | The Seven Countries Study                       | United States; Finland; Italy; Croatia; Serbia; Greece; Japan | Prospective cohort | Male | 25 | 40 | 59 | Standardized questionnaire | Incidence | Medical records, vital records, proxy interviews | Coronary heart disease, Stroke | 2624 | 12763 | |
| cvd               | 358462 | Thrift 1999  | Residents and patients of the Melbourn metropolitan area | Australia | Case-control | Both | 18 | 80 | Structured administered questionnaire | Incidence | Vital records, Medical records | First intracerebral hemorrhage | 331 | 331 | Population |
| cvd               | 294121 | Huhtasaari 1999 | Male residents in the two northern-most counties in Sweden | Sweden | Case-control | Male | 25 | 64 | Interview | Incidence | Discharge records, physician diagnosis, vital records | Ischemic heart disease | 687 | 687 | Population |
| cvd               | 389100 | You 1999     | Patients from 3 hospitals in Victoria, Australia | Australia | Case-control | Both | 30 | 88 | Interview | Incidence | Medical diagnosis | Ischemic stroke | 452 | 452 | Population |
| cvd               | 463869 | Connelly 1999 | Residents of New York                            | United States | Case-control | Both | 25 | 99 | Interview | Incidence | Clinical diagnosis | Subarachnoid hemorrhage | 342 | 1188 | Population |
| Fractures | Study | Year | Study Design | Patients | Gender | Age | Method | Incidence Source | Number of Fractures | Number of Refractors |
|-----------|-------|------|--------------|----------|--------|-----|--------|------------------|---------------------|---------------------|
| Bladder cancer | Fortuny | 1999 | Hospital patients | Case-control | Both | NA | NA | Questionnaire | Incidence | Physician diagnosis | Bladder cancer | 146 | 3366 | Individually from the same study center (general population and hospitals) |
| Fractures | Cornuz | 1999 | Nurse's Health Study | Female registered nurses 30-55 years of age in 1976 | United States | Prospective cohort | Female | 12 | 30 | 55 | Questionnaire | Incidence | Self-report | 1,320,000 | 377 | 121,701 | Hip fracture |
| Fractures | Burger | 1999 | Rotterdam Study | All 10,275 inhabitants of Ommord, a district in Rotterdam, the Netherlands, were invited to participate | Ommord, Rotterdam, Netherlands | Prospective cohort | Both | 3.8 | 55 | 99 | Interview | Incidence | Medical records | 19790 | 50 | 5208 | Hip fracture |
| Fractures | Michaëllson | 1999 | a large population-based case-control study in Swedish women | Stockholm, Uppsala, Vastra Gotaland, Gotenborg and Malmo, Sweden | Case-control | Female | 51 | 80 | Questionnaire | Incidence | Medical reports | Hip fracture, Cervical fracture, trochanteric fracture | 1610 | 4059 | |
| Fractures | Melhus | 1999 | Women who were residents in Sweden | Sweden | Case-control | Female | 40 | 76 | Questionnaire | Incidence | Self-report | Hip fracture | 247 | 783 | Population |
| Iri | Baik | 2000 | Male health professionals and female registered nurses | United States | Prospective cohort | Both | 8 | 27 | 79 | Administered questionnaire | Incidence | Medical records, vital records | 595 | 104491 | Pneumonia |
| Disease | Study | Year | Cohort Details | Gender | Age range | Methodology | Incidence | Mortality | Notes |
|---------|-------|------|----------------|--------|-----------|-------------|-----------|-----------|-------|
| diabetes | 348083 | Manson 2000 | Physicians' Health Study US male physicians United States Prospective cohort | Male | 12-40 | Self-administered questionnaire | 348080 | 770 | Type 2 diabetes mellitus |
| diabetes | 348085 | Nakanishi 2000 | Japanese male office workers at T corporation in Osaka, Japan Osaka, Japan Prospective cohort | Male | 5-35 | Self-administered questionnaire | 5937 | 54 | Type 2 diabetes |
| prostate cancer | 165571 | Putnam 2000 | Iowa residents United States Prospective cohort | Male | 9-40 | Mailed questionnaire | 9509 | 101 | Prostate cancer |
| prostate cancer | 346832 | Nilson 2000 | Residents in the Nord-Trøndelag county in Norway Norway Prospective cohort | Both | 9.8-30 | Self-administered questionnaire | 622721 | 166 | Pancreatic cancer |
| prostate cancer | 347448 | Lotufo 2000 | Physicians' Health Study US male physicians with no history of myocardial infarction, stroke, transient ischemic attack, or cancer (except non-melanoma skin) United States Prospective cohort | Male | 12.5-40 | Self-administered questionnaire | 260926 | 996 | Prostate cancer |
| prostate cancer | 359212 | Lund 2000 | All residents aged 20 years or more in the county of Nord-Trøndelag Norway Prospective cohort | Male | 9.3-49.2 | Mailed questionnaire | 212720 | 644 | Prostate cancer |
| fractures | 132098 | Huopio 2000 | Female residents of Kuopio Province Finland Prospective cohort | Female | 3.6-47 | Questionnaire | 257 | 3068 | Fracture (except for those due to motor vehicle accidents) |
| lung cancer | 286844 | Dikshit 2000 | Males in Bhopal India Case-control | Male | 18-99 | Administered questionnaire | Lung cancer | 163 | 423 | Populatio |
| ibd | 357413 | Miyake 2000 | Residents/pa of Fukuoka City and Japan Case-control | Both | 40-79 | Administered questionnaire | Clinical diagnosis by collaborati | Non-fatal acute myocardial infarction | 384 | 656 | Populatio |
| Study | n | Author | Year | Study Population | Study Design | Cases | Controls | Study Method | Disease | Incidence | Sample Size | Matched Variable |
|-------|---|--------|------|-----------------|--------------|-------|----------|--------------|---------|-----------|-------------|-----------------|
| Iri | 355108 | Nuorti | 2000 | Patients and residents from Atlanta, Baltimore, and Toronto | Case-control | Both | 18 | 64 | Administered questionnaire | Clinical records | Invasive pneumococcal disease | General population |
| Parkinson | 359151 | Benedetti | 2000 | General population of Olmsted County, Minnesota | Case-control | Both | 41 | 97 | Medical records | Medical records | Parkinson's disease | General population of Olmsted County, Minnesota and free of Parkinson's disease, other parkinsonism, or tremor of any type in the index year |
| Esophageal cancer | 339730 | Cheng | 2000 | Residents of study areas | Case-control | Female | 18 | 79 | Interview | Disease registry and histological confirmation | Esophageal adenocarcinoma | Population |
| Stomach cancer | 340528 | Zaridze | 2000 | Cases were selected from the two main cancer-treatment hospitals in Moscow and controls were selected from the two major general hospitals in Moscow | Case-control | Male | 18 | 99 | Self-administered questionnaire | Physician diagnosis | Newly diagnosed, histologically confirmed stomach cancer | Patients from the two major general hospitals in Moscow with the same catchment area as the two major cancer-treatment centers |
with the same catchment area as the hospitals from which the cases were selected; cases and controls were restricted to residents of Moscow city.

| Study | Patients identified from | Control | Study Type | Study Design | Year | Personal interview | Incidence | Study Details |
|-------|-------------------------|---------|------------|--------------|------|--------------------|-----------|---------------|
| Yuan  | Shanghai Cancer Registry and controls randomly selected from the urban Shanghai population | Both | Case-control | 15 | 74 | Nasopharyngeal carcinoma | 346049 | Shanghai, China |
| Nomura | Japanese-American men on the Hawaiian island of Oahu | Male | Nested case-control | 45 | 68 | Prostate cancer | 359218 | United States |
| Thun  | Nationwide residents | Both | Prospective cohort | 6 | 30 | Cardiovascular diseases | 463446 | United States |
| Takagi | Residents of two rural communities of Hokkaido | Both | Prospective cohort | 18 | 40 | Cardiovascular diseases | 463455 | Japan |

| Study | Cohort members who were not cases | Study Details |
|-------|----------------------------------|---------------|
| Yuan  | Nasopharyngeal carcinoma | 935 | 1032 | General population |
| Nomura | Prostate cancer | 249 | 249 | Cohort members who were not cases |
| Thun  | Cardiovascular diseases | 23738 | 974150 | Cardiovascular diseases; Ischemic heart disease; Other cardiovascular and circulatory diseases; Stroke |
| Takagi | Cardiovascular diseases | 1996 | | Cardiovascular diseases |
| Study | Reference | Country/Region | Design | Method | Sample Size | Outcome | Exposure | Outcome Measurement |
|-------|-----------|----------------|--------|--------|-------------|---------|----------|---------------------|
| CVD   | Kunze 2000 | Germany        | Case-control | Both | 20, 84 | Standardized questionnaire | Incidence | Clinical diagnosis |
| CVD   | Meijer 2000 | The Netherlands | Cross-sectional | Both | 55, 88 | Self-report | Prevalence | Biomarker |
| Parkinson | Benedetti 2000 | United States | Case-control | Both | 41, 97 | Medical records | Incidence | Medical records |
| Bladder Cancer | Wakai 2000 | Aichi Prefecture, Central Japan | Case-control | Both | 20, 99 | Structured interview | Incidence | Physician diagnosis, biomarker |
| Fractures | Høidrup 2000 | Copenhagen, Denmark | Prospective cohort | 19.5, 20, 93 | Self-administered questionnaire | Incidence | Hospital records | 598847, 1169, 30772 | Hip fracture |
| Study Type | Study Name | Study Location | Sample Size | Sex | Age (y) | Data Collection Method | Cause of Death | N | M | Notes |
|------------|------------|----------------|-------------|-----|---------|------------------------|----------------|---|---|-------|
| Medicine, Copenhagen City Heart Study, Copenhagen Male Study | medical | Copenhagen, and 14 major work sites in the Copenhagen area | self-administered questionnaire, telephone interview | both | 33 | 18 | mortality | Vital records | 7388 | 41544 | ischemic heart disease (ICD-8 410-414) |
| stroke | 344343 | Wang 2001 | Systolic Hypertension in China (Syst-China) Trial | Clinical trial patients | China | prospective cohort | both | 3 | 60 | 99 | administered questionnaire, telephone interview | mortality | Screenings | 6414 | 56 | 2284 | stroke |
| stroke | 328259 | Nilsson 2001 | Swedish adults | Sweden | prospective cohort | both | 33 | 18 | 69 | administered questionnaire, telephone interview | mortality | Vital records | 877635 | 352 | 41544 | all cerebrovascular disease |
| diabetes | 309592 | Hu 2001 | Nurses' Health Study | Female nurses in the US | United States | prospective cohort | female | 16 | 34 | 59 | administered questionnaire | incidence | self-report | 130105 | 3300 | 84941 | type 2 diabetes |
| diabetes | 348088 | Wannamethee 2001 | British Regional Heart Study | Men recruited from one general practice in each of 24 towns in England, Wales, and Scotland | England, United Kingdom | prospective cohort | male | 16.8 | 40 | 59 | administered questionnaire | incidence | physician diagnosis, medical records, vital records | 290 | 7124 | diabetes |
| diabetes | 356075 | Will 2001 | CPS I | Residents from 25 states throughout the US | United States | prospective cohort | both | 13 | 30 | 99 | administered questionnaire | incidence | self-report, vital records | 672396 | 25397 | 709827 | diabetes mellitus |
| aortic aneurism | 328259 | Nilsson 2001 | Swedish residents | Sweden | prospective cohort | both | 28 | 18 | 69 | administered questionnaire, personal interview | mortality | Vital records | 877635 | 196 | 41544 | aortic aneurysm (ICD-8, 441) |
| peptic ulcer | 328259 | Nilsson 2001 | 1960 Swedish census population | Sweden | prospective cohort | both | 13.9 | 18 | 69 | questionnaire, telephone interview | mortality | cause of death registry | 877635 | 170 | 41544 | peptic ulcer (ICD-8 531-534) |
| Disease | ID | Author | Year | Study Design | Country | Region | Sample Size | Study Details | Outcomes | Other Details |
|---------|----|--------|------|--------------|---------|--------|-------------|---------------|----------|---------------|
| Lung cancer | 357415 | Mao | 2001 | Adults in the provinces of British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, Prince Edward Island, Nova Scotia, and Newfoundland | Canada | Case-control | Both | 20 | 99 | Mailed questionnaire and phone interviews | Incidence | Disease surveillance system of histologically confirmed cases | Lung cancer | 3280 | 8353 | Population |
| Lung cancer | 357644 | Simonato | 2001 | Hospital-based cases and controls and population-based controls in 6 countries | Sweden, Germany, United Kingdom, France, Spain, Italy | Pooled case-control | Both | 15 | 99 | Administered interviews and questionnaires | Incidence | Clinical records | Lung cancer | 6035 | 14002 | Varied |
| Lung cancer | 419728 | Rachtan | 2001 | Hospital-based cases and controls at a hospital in Cracow, Poland | Poland | Case-control | Female | 18 | 99 | Administered interviews and questionnaires | Incidence | Histologically confirmed cases | Lung cancer (ICD-9 162) | 242 | 594 | Hospital contacts |
| IHD | 358054 | Suh | 2001 | Patients in a university teaching hospital in Seoul | South Korea | Case-control | Male | 30 | 75 | Administered interview | Hospitalization | Clinically confirmed diagnosis | First acute myocardial infarction | 108 | 142 | Hospital |
| Stroke | 343582 | Lam | 2001 | Chinese residents of Hong Kong | Hong Kong | Case-control | Both | 35 | 69 | Administered interview or self-administered questionnaire | Mortality | Vital records | Stroke | 721 | 6410 | Population |
| Stroke | 350747 | Yamasura | 2001 | Patients from multiple health centers | Japan | Case-control | Both | 18 | 99 | Structured questionnaire | Incidence | Medical diagnosis, confirmed by cerebral angiography | Aneurysmal subarachnoid hemorrhage | 127 | 127 | Clinical outpatients |
| TB | 343582 | Lam | 2001 | Ethnic Chinese in Hong Kong | China | Case-control | Both | 35 | 99 | Proxy informants | Mortality | Death registry | Respiratory tuberculosis | 27507 | 13054 | Living relatives of the...
| Disease                          | Study population                                      | Study design | Study type | Date  | Accuracy          | Study methods                                                                 | Inclusion criteria                                                                                   | Exclusion criteria                                                                 |
|--------------------------------|-------------------------------------------------------|--------------|------------|-------|-------------------|-------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| Parkinson's disease            | Residents who owned homes in the Leisure World Laguna Hills retirement community in California | Both         | Nested case-control | 2001  | United States     | Mailed questionnaire                                                         | Incidence                                                                           | Self-report, medical records, death certificates, Parkinson's disease deceased cases |
| Multiple sclerosis             | Residents of greater Montreal area                    | Both         | Case-control | 2001  | Canada            | Administered questionnaire                                                   | Incidence                                                                           | Diagnosis                                                                            | Multiple sclerosis, Portion of cohort who were not cases |
| Esophageal cancer              | Patients at the Aichi Cancer Center                   | Both         | Case-control | 2001  | Japan             | Self-administered questionnaire                                               | Incidence                                                                           | Clinical diagnosis                                                                   | Esophageal cancer, Population of interest |
| Oral and pharyngeal cancer     | Residents of metropolitan Athens and Attica           | Both         | Case-control | 2001  | Greece            | Subject interview                                                             | Incidence                                                                           | Primary histopathologically-confirmed diagnosis                             | Oral and pharyngeal cancer (ICD-9 141, 143-145, 148-149), Patients from the same hospitals who were hospitalized for conditions unrelated to cancer or who were trauma patients |
| Kidney cancer                  | Residents of Iowa                                     | Both         | Case-control | 2001  | Iowa, USA          | Mailed questionnaire and/or telephone interview                               | Incidence                                                                           | Disease registry                                                                   | Kidney cancer adenocarcinomas, excluding cancers of the renal pelvis |
| General population             | Residents of Iowa                                     | Both         | Case-control | 2001  | Iowa, United States | Self-administered questionnaire                                               | Incidence                                                                           | Disease registry                                                                   | Kidney cancer, General population |
| Kidney cancer                  | Residents from Orange                                 | Both         | Case-control | 2001  | California, United States | Personal interviews                                                          | Incidence                                                                           | Disease registry, histological                                                | Renal cell carcinoma, General population |
| Other pharyngeal cancer        | Residents of metropolitan Athens and Attica           | Both         | Case-control | 2001  | Greece            | Subject interview                                                             | Incidence                                                                           | Primary histopathologically-confirmed diagnosis                             | Oral and pharyngeal cancer (ICD-9 141, 143-145, 148-149), Patients from the same hospitals who were hospitalized for conditions unrelated to cancer or who were trauma patients |

N/A
| Fractures | ICD C64.9 | Population | Study Design | Data Source | Cases | Controls | Study Characteristics |
|-----------|-----------|------------|--------------|-------------|-------|----------|-----------------------|
| 414220    |           | County, California | Case-control | Hospital discharge records | Mailed questionnaire | Incidence | Post-menopausal women in study areas | 414220 Baron 2001 | Hip fracture | 1327 3262 |
| 298324    |           | Korea Medical Insurance Corporation (KMIC) Study | Prospective cohort | Hospital discharge records | Self-administered questionnaire | Incidence or Mortality | Civil services workers, private school workers, and dependents | 298324 Suh 2001 | Intracerebral hemorrhage; Subarachnoid hemorrhage | 358 114793 |
| 350747    |           | Yamaura 2001 | Case-control | Hospital discharge records, vital records | Structured questionnaire | Incidence | Patients from multiple health centers | 350747 Yamaura 2001 | Aneurysmal subarachnoid hemorrhage | 127 127 |
| 463965    |           | Qureshi 2001 | Case-control | Medical diagnosis, confirmed by cerebral angiography | Interview | Incidence | Patients recruited from the Neurosciences Critical Care Unit at John Hopkins Hospital | 463965 Qureshi 2001 | Subarachnoid hemorrhage | 323 969 |
| 359152    |           | Herman 2001 | Case-control | Medical records, disease registry | Mailed questionnaire | Incidence | Male health professionals from all states and female registered nurses in eleven states | 359152 Herman 2001 | Definite and probable idiopathic Parkinson's disease | 268163 48 |
| 359160    |           | Paganini-Hill 2001 | Nested case-control | Medical records, death certificates | Mailed questionnaire | Incidence | Residents who owned homes in the Leisure World Laguna Hills retirement community in California | 359160 Paganini-Hill 2001 | Parkinson's disease | 201 1210 |
| Source       | Event/Study | Methodology | Age Range | Sample Size | Gender Distribution | Data Collection | Incidence Data | Follow-up Methodology | Location/Setting |
|-------------|-------------|-------------|-----------|-------------|---------------------|----------------|----------------|----------------------|------------------|
| Geoffroy-Perez 2001 | Bladder cancer | Patients from seven hospitals in France | Male | 45, 75 | Structured interview | Incidence | Physician diagnosis | | |
| Lau 2001 | Hip fractures | Men and women who were 50 years and older and who were admitted with a diagnosis of hip fracture were recruited from hospitals in Malaysia, Philippines, Singapore, and Thailand | Both | 50, 99 | Administered questionnaire | Incidence | Self-report | | |
| Jonsdottir 2002 | Reykjavik Study | Residents of Reykjavik in Iceland | Both | 28, 30, 84 | Administered questionnaire | Incidence or Mortality | Medical records, hospitalization | | |

Note: Hospital patients with other diagnoses excluding cancer are excluded. In Malaysia, subjects presenting in general practice clinics for minor ailments were used. In the Philippines, subjects seen by doctors in outreach health programs were used. In Thailand, neighborhood controls were used. In Singapore, community controls were recruited by household surveys.
| Study | Participants | Design | Follow-up | Methods | Outcomes | Number |
|-------|--------------|--------|-----------|---------|----------|--------|
| Ihd   | Residents of study area in Copenhagen | Prospective cohort | Both | 22 | 30 | 99 | Self-administered questionnaire | Incidence or Mortality | 1348 | 12149 | Myocardial infarction (ICD-9 410-414.9) |
| Stroke| Members of a pre-paid healthcare system | Prospective cohort | Both | 18 | 18 | 99 | Questionnaire | Hospitalization or Mortality | 431 | 128934 | Hemorrhagic stroke |
| Stomach_cancer | Individuals at least 30 years of age and living in a household with one person at least 45 years of age in all 50 states of the United States, District of Columbia, and Puerto Rico | Prospective cohort | Both | 13.2 | 30 | 99 | Self-administered questionnaire | Mortality | 138935 94 | 1505 | 1055841 | Stomach cancer (ICD-9 151.0-151.9) |
| Pancreatic_cancer | Residents from 45 areas throughout Japan | Prospective cohort | Male | 8.1 | 40 | 79 | Self-administered questionnaire | Mortality | 807407 | 225 | 110792 | Pancreatic cancer (ICD-10, C25) |
| Cataracts | Female registered nurses and male health professionals from all 50 states | Prospective cohort | Both | 8.8 | 30 | 75 | Self-administered questionnaire | Incidence | 103849 3 | 4281 | 117731 | Cataract extraction |
| Lbp   | Workers from the French national | Prospective cohort | Both | 7 | 35 | 50 | Self-administered questionnaire | Incidence | 416 | 2205 | Low back pain in the past year |
| Study | Year | Authors | Methodology | Country | Control | Design | Gender | Age | Duration | Follow-up | Data Collection | Outcomes | Study Type | Cases | Controls | Study Population | Study Details |
|-------|------|---------|-------------|---------|---------|--------|--------|-----|----------|-----------|----------------|-----------|------------|-------|----------|----------------|---------------|
| Kubik 2002 | 2002 | Kubik | Case-control | Czechia | 25 89 | Administered interviews and questionnaires | Incidence | Microscopically verified cases | Lung cancer | 269 1348 | Case-control | No subjects who were screened and declared free of tuberculosis |
| Kolappan 2002 | 2002 | Kolappan | Nested case-control | India | 20 50 | Interview | Incidence | Biomarker | Tuberculosis | 85 459 | Case-control | No subjects who were screened and declared free of tuberculosis |
| Jonsdottir 2002 | 2002 | Jonsdottir | Prospective cohort | Iceland | Both 28 30 84 | Administered questionnaire | Incidence or Mortality | Medical records, hospitalization records, vital records, autopsy reports | Cardiovascular diseases; Ischemic heart disease; Stroke | 2406 98569 | Prospective cohort | No subjects who were screened and declared free of tuberculosis |
| Lam 2002 | 2002 | Lam | Prospective cohort | China | Both 12 66 105 | Standardized administered questionnaire | Mortality | Hospital death certificates | Cardiovascular diseases | 66 807 | Prospective cohort | No subjects who were screened and declared free of tuberculosis |
| Isaksen 2002 | 2002 | Isaksen | Case-control | Norway | Both 26 80 | Structured questionnaire | Incidence | Discharge records, disease registry, medical records | Subarachnoid hemorrhage | 26 104 | Case-control | No subjects who were screened and declared free of tuberculosis |
| Moons 2002 | 2002 | Moons | Nested case-control | Finland; The Netherlands; United Kingdom | Male 42 99 | Structured questionnaire | Incidence | Clinical diagnosis, disease registry, | Stroke | 219 479 | Cohort population | No subjects who were screened and declared free of tuberculosis |
| Study | CVD Cases | Year | Study Design | Age (yrs) | Method | Outcome | Cardiovascular Events | Notes |
|-------|-----------|------|--------------|-----------|--------|---------|-----------------------|-------|
| Fowler 2002 | 137303 | 2002 | Cohort Studies | General male elderly population of metropolitan Perth, Western Australia | Australia | Cross-sectional | Male 65 83 | Self-administered questionnaire | Prevalence | Biomarker | 744 | 4470 | Peripheral artery disease | 463 |
| Ando 2003 | 358502 | 2003 | Japan Collaborative Cohort (JACC) | Adults in 45 study areas | Japan | Prospective cohort | Both 9 40 79 | Questionnaire | Mortality | Vital records | 816614 | 597 | 108736 | Lung cancer |
| Shaper 2003 | 323104 | 2003 | British Regional Heart Study | Male patients in general practice in 24 towns | United Kingdom | Prospective cohort | Male 21.8 40 59 | Administered questionnaire | Incidence or Mortality | Medical records, self-reported, vital records | 1133 | 7735 | Myocardial infarction, Sudden cardiac death |
| Yamada 2003 | 193978 | 2003 | Japan Collaborative Cohort Study | Male patients in a general practice in 24 towns | Japan | Prospective cohort | Both 9.9 40 79 | Self-administered questionnaire | Mortality | Vital records | 1099662 | 244 | 109293 | Subarachnoid hemorrhage |
| Kurth 2003 | 344318 | 2003 | Women's Health Study | Female health professionals | United States | Prospective cohort | Female 9 45 99 | Postal questionnaire | Incidence or Mortality | Medical records, vital records | 354899 | 70 | 39783 | Hemorrhagic stroke |
| Kurth 2003 | 350749 | 2003 | Physicians' Health Study | US male physicians | United States | Prospective cohort | Male 17.8 40 84 | Postal questionnaire | Incidence or Mortality | Self-reported, medical records, familial reporting | 385419 | 1069 | 22022 | Total stroke (ischemic, hemorrhagic, unknown) |
| Shaper 2003 | 332104 | 2003 | British Regional Heart Study | Male patients in a general practice in 24 towns | United Kingdom | Prospective cohort | Male 21.8 40 59 | Administered questionnaire | Incidence or Mortality | Medical records, self-reported, vital records | 440 | 7121 | Major stroke events |
| Sawada 2003 | 230548 | 2003 | Male employees who had participated in an annual health examination at the Tokyo | Japan | Prospective cohort | Male 14 20 40 | Self-administered questionnaire | Incidence | Physician diagnosis, self-report | 64434 | 280 | 4745 | Type 2 diabetes |
| colon_an_d_rectum_cancer | Shimizu 2003 Takayama Study | Residents of Takayama | Japan | Prospective cohort | Both | 8 35 99 | Self-administered questionnaire | Incidence | Hospital diagnosis | 295 29051 | Histologic ally-diagnosed colon or rectal cancer |
|--------------------------|-----------------------------|----------------------|-------|-------------------|------|--------|--------------------------------|-----------|-------------------|-----------|------------------------------------------------|
| colon_an_d_rectum_cancer | Otani 2003 Japan Public Health Center-based prospective study on cancer and cardiovascular disease (JPHC study, cohorts I and II) | Residents residing covered by five public health centers in five prefectures (Iwate, Aki, Nagano, Okinawa, Tokyo) in Cohort I and six public health centers in six prefectures (Ibaraki, Niigata, Kochi, Nagasaki, Okinawa, Osaka) in Cohort II | Japan | Prospective cohort | Male | 7.6 40 69 | Self-administered questionnaire | Incidence | Hospital records, population-based cancer registries, death certificates | 324524 457 42540 | Colorectal, colon, or rectum cancer (ICD-O-2 C180-189, C199, C209) |
| colon_an_d_rectum_cancer | Limburg 2003 Iowa Women's Health Study (IWHS) | Iowa females who held a valid driver's license | United States | Prospective cohort | Female | 12.6 55 69 | Mailed questionnaire | Incidence & Mortality | Iowa Cancer Registry, death certificate | 434700 869 34467 | Colorectal cancer (ICD-O 18.0, 18.2-18.9, 19.9, 20.9 for incidence and ICD-O 153.0-154.1 for mortality) |
| peptic_ulcer | Rosenstock 2003 | Randomly-sampled Danish adults aged 30, 40, 50, and 60 years | Denmark | Prospective cohort | Both | 11 30 60 | Self-administered questionnaire | Incidence | Self-reported first-time diagnosis, medical records | 71 2416 | Gastric ulcer (ICD-8 531), duodenal ulcer |
| Study | ID | Authors | Year | Study Design | Study Population | Data Collection | Data Source | Enrollment | Follow-Up | Outcomes | Comparator | Follow-Up | Study Setting |
|-------|----|---------|------|--------------|------------------|-----------------|-------------|------------|-----------|----------|------------|-----------|---------------|
| ihd   | 357453 | Piegas  | 2003 | Case-control | Adults in 51 cities | Both | 40 | Administered questionnaire | Hospitalization, test results | ST-segment elevation acute myocardial infarction | 1279 | 1279 | Hospital |
| stroke | 344340 | Broderick | 2003 | Case-control | Patients in 44 hospitals | Both | 18 | Administered questionnaire | Incidence | Symptomatic aneurysmal subarachnoid hemorrhagic stroke | 312 | 618 | Population |
| liver_can | 343586 | Matsuo | 2003 | Case-control | Residents in either the Fukuoka or Saga Prefecture. Community controls were residents of Kurume City | Both | 40 | Personal interviews | Incidence | Medical records | Hepatocellular carcinoma | 222 | 548 | General population and hospital controls |
| liver_can | 343588 | Munaka | 2003 | Case-control | Patients and controls from the University of Occupational and Environmental Health Hospital in Japan | Both | 34 | Administered questionnaire | Incidence | Medical records | Hepatocellular carcinoma | 78 | 138 | Hospital based |
| pancreati_cancer | 346137 | Inoue | 2003 | Nested case-control | Cancer and cancer-free outpatients of the Aichi Cancer Center Hospital | Both | 30 | Self-administered questionnaire | Incidence | Disease registry | Pancreatic cancer | 200 | 2000 | Hospital based |
| cvd | 332104 | Shaper | 2003 | British Regional Heart Study | Male patients in a general practice in 24 towns | United Kingdom | Prospective cohort | Male | 21.8 | 40 | 59 | Administered questionnaire | Incidence or Mortality | Medical records, self-reported, vital records | 1573 | 7735 | Myocardial infarction, Sudden cardiac death, Major stroke events |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| cvd | 344318 | Kurth | 2003 | Women's Health Study | Female health professionals | United States | Prospective cohort | Female | 9 | 45 | 99 | Postal questionnaire | Incidence or Mortality | Medical records, vital records | 354899 | 70 | 39783 | Hemorrhagic stroke |
| cvd | 350749 | Kurth | 2003 | Physicians' Health Study | US male physicians | United States | Prospective cohort | Male | 17.8 | 40 | 84 | Postal questionnaire | Incidence or Mortality | Self-reported, medical records, familial reporting | 385419 | 1069 | 22022 | Total stroke (ischemic, hemorrhagic, unknown) |
| cvd | 344340 | Broderick | 2003 | Patients in 44 hospitals | United States | Case-control | Both | 18 | 49 | Administered questionnaire | Incidence | Medical diagnosis | Symptomatic aneurysmal subarachnoid hemorrhagic stroke | 312 | 618 | Population |
| cvd | 463924 | Ohkuma | 2003 | Patients recruited from Aomori Prefecture | Japan | Case-control | Both | 32 | 85 | Structured questionnaire | Incidence | Clinical diagnosis | Subarachnoid hemorrhage | 390 | 390 | Hospital |
| cvd | 464293 | Okamoto | 2003 | Patients from 2 hospitals in Nagoya, Aichi Prefecture | Japan | Case-control | Both | 30 | 79 | Interview | Incidence | Clinical records | Subarachnoid hemorrhage | 195 | 390 | Hospital and population |
| fractures | 498391 | Rey | 2003 | European Prospective Osteoporosis Study | In brief, subjects aged 50–79 years were recruited from population registers in 36 European centers. | Multiple countries in Europe | Prospective cohort | Both | 3.8 | 50 | 79 | Questionnaire | Incidence | Medical reports, Physician Diagnosis | 24985 | 193 | 6575 | Vertebral fracture |
| Study Type | ID | Authors | Year | Country | Study Population | Design | Gender | Age | Methods | Data Sources | Outcome | N (Cases) | N (Total) | Reference |
|------------|----|---------|------|---------|------------------|--------|--------|-----|---------|-------------|----------|-----------|-----------|-----------|
| Lung cancer | 502460 | Chan-Yeung | 2003 | Japan | Lung cancer patients from Aichi Cancer Center, National Nagoya Hospital, and Nagoya First Red Cross Hospital | Both | 25 | 90 | self-administered questionnaire | Histologic confirmed cases | Lung cancer | 282 | 389 | Varied |
| Lung cancer | 502421 | Kreuzer | 2003 | Poland | Residents of northeastern Poland | Female | 18 | 75 | administered interview | Histologic confirmed cases | Lung cancer | 187 | 691 | Varied |
| Lung cancer | 450624 | Zatloukal | 2003 | Czech Republic | Women's Health Initiative Studies | Female | 25 | 89 | administered interview | Histologic confirmed cases | Lung cancer | 334 | 578 | Hospital |
| Lung cancer | 358563 | Nishino | 2004 | Japan | Miyagi Prefectural Cancer Registry | Male | 7 | 40 | Self-administered questionnaire | Clinical records, radiology and pathology records, autopsy records, mass screening records, and death certificates | Lung cancer | 166804 | 22836 | Lung cancer |
| Ischemic heart disease | 174238 | Doll | 2004 | United Kingdom | Male doctors residing in the UK | Male | 50 | 18 | Self-administered questionnaire | Professional records, vital records | Ischemic heart disease | 7628 | 34439 | Stroke |
| Stroke | 331710 | Ueshima | 2004 | Japan | NIPPON DATA80 Japanese households | Both | 14 | 30 | Self-administered questionnaire | Vital records | Stroke | 118044 | 203 | 9638 | Stroke (ICD-9 430-438) |
| Stroke | 332100 | Mannami | 2004 | Japan | Individuals registered in 14 administrative districts | Male | 11 | 40 | Self-administered questionnaire | Incidence or Mortality | Stroke | 217151 | 702 | 19782 | Stroke |
| Stroke | 412060 | Ueshima | 2004 | Japan | Household members aged 30 years or more | Both | 13.2 | 30 | Self-administered questionnaire | Vital records | Stroke (ICD-9 430-438) | 118044 | 203 | 10546 | Stroke (ICD-9 430-438) |
| Condition | ID   | Last Name | Year | Study Name                          | Gender | Age | Death Rate | Method | Source of Data | Incidence | Mortality | Notes |
|-----------|------|-----------|------|------------------------------------|--------|-----|------------|--------|----------------|-----------|-----------|-------|
| Stroke   | 174238 | Doll      | 2004 | British Doctors' Study             | Male   | 50  | 18         | 99     | Self-administered questionnaire | 3307      | 34439     | Cerebrovascular disease |
| TB       | 348053 | Leung     | 2004 | Residents at 18 elderly health centers in Hong Kong | Both   | 2.4 | 65         | 99     | Health database | 286       | 42655     | Tuberculosis |
| Diabetes | 348091 | Carlsson  | 2004 | Nord-Trondelag Health Survey       | Both   | 11  | 20         | Self-administered questionnaire | 1130      | 38805     | Type 2 diabetes |
| Diabetes | 348100 | Sairench  | 2004 | Japanese men and women who underwent health checkups conducted by the Ibaraki Health Service Association in Ibaraki-ken | Both   | 8   | 40         | Personal interview | 614311    | 7990      | Type 2 diabetes mellitus |
| Breast Cancer | 310438 | Reynolds  | 2004 | Active and retired female enrollees in the California State Teachers Retirement System who teach from the kindergarten to community college level | Female | 5   | 18         | Baseline survey | 2005      | 116544    | Invasive breast cancer |
| Fractures | 414210 | Porthouse | 2004 | Women 70 years or older in United Kingdom | Female | 1   | 70         | Questionnaire | 330       | 4292      | Non-vertebral fracture |
| Region | Study Code | Authors | Year | Study Design | Country/Location | Gender/Type | Sample Size | Data Collection Method | Outcomes | Acute myocardial infarction | Non-fatal myocardial infarction | Population Size | Notes |
|--------|------------|---------|------|--------------|-----------------|-------------|-------------|------------------------|----------|---------------------------|-----------------------------|----------------|-------|
| North Yorkshire and North Cumbria | ihd 309729 | Tavani 2004 | Hospitals in Northern Italy | Italy | Pooled case-control | Female | 18 | Structured interviews | Incidence | Medical records | | | 558 | 1044 | Hospital |
| | ihd 357373 | Ismail 2004 | Young South Asian adults from Karachi | Pakistan | Case-control | Both | 15 | Standardized questionnaire | Non-fatal hospitalization | Hospital records | | | 193 | 193 | Population |
| | stroke 343300 | Anderson 2004 | Residents of Adelaide, Hobart, Perth, and Auckland | Australia; New Zealand | Case-control | Both | 15 | Structured in-person interview | Incidence | Medical records | | Subarachnoid hemorrhage | 432 | 473 | Population |
| | stroke 357435 | Hajat 2004 | Residents of South London | United Kingdom | Case-control | Both | 45 | Medical records, self-reported | Incidence | Disease registry | | First ischemic stroke | 664 | 716 | Population |
| | tb 298335 | Crampin 2004 | Population of Karongo District | Malawi | Case-control | Male | 15 | Interview | Incidence | Medical records, self-report, biomarker | | Tuberculosis | 157 | 373 | Population and matched with cases |
| | tb 348044 | Ariyothai 2004 | Population with access to health services at Taksin Hospital | Thailand | Case-control | Both | 15 | Interview | Incidence | Physician diagnosis, biomarker | | New pulmonary tuberculosis | 100 | 100 | Non-tuberculosis case attending the outpatient department for medical check-up or inpatient department with no evidence of lung disease |
| | asthma 346730 | Piipari 2004 | Adults living in the Pirkanmaa | Finland | Case-control | Both | 21 | Self-administered questionnaire | Incidence | Physician diagnosis | | Asthma | 521 | 932 | General population |
| Study ID | Year | First Author | Country/Region | Design | Controls | Number of Cases | Number of Comparators | Study Design | Outcomes | Methods | Number | Hospital/Population |
|---------|------|--------------|----------------|--------|----------|----------------|----------------------|--------------|----------|---------|---------|-------------------|
| cvd | 329007 | Wen | 2004 | Hospital District in southern Finland | Residents of northern, central, and southern Taiwan, and civil service employees and teachers | Taiwan | Pooling prospective cohort | Both | 9 | 35 | 108 | Interview and self-administered questionnaire | Mortality | Vital records | 413 | 86580 | Ischemic heart disease; Stroke |
| cvd | 343300 | Anderson | 2004 | Residents of Adelaide, Hobart, Perth, and Auckland | Australia; New Zealand | Case-control | Both | 15 | 99 | Structured in-person interview | Incidence | Medical records | Subarachnoid hemorrhage | 432 | 473 | Population |
| cvd | 357435 | Hajat | 2004 | Residents of South London | United Kingdom | Case-control | Both | 45 | 74 | Medical records, self-reported | Incidence | Disease registry | First ischemic stroke | 664 | 716 | Population |
| cvd | 463885 | Tan | 2004 | Patients admitted to the First Department of Neurology of the Chang Hung Memorial Hospital, Kaohsiung | Taiwan | Case-control | Both | 39 | 85 | Interview | Incidence | Clinical diagnosis, medical records | Ischemic stroke | 228 | 228 | Hospital |
| cvd | 464712 | Yusuf | 2004 | Residents of South London | United Kingdom | Case-control | Both | 18 | 99 | Structured questionnaire | Incidence | Hospital admission records | Ischemic heart disease | 15152 | 14820 | Population |
| bladder_cancer | 502417 | Sun | 2004 | Shanghai Cohort Study | Chinese adults in Shanghai | Shanghai, China | Prospective cohort | Male | 12.8 | 45 | 64 | Structured interview | Incidence or Mortality | Re-contacts of participant s and death registry | 233,482 | 61 | 18244 | Bladder cancer |
| bladder_cancer | 502423 | Hung | 2004 | Male residents of Brescia | Brescia, Italy | Case-control | Male | 40 | 80 | Structured interview | Incidence | Physician diagnosis, biomarker | Bladder cancer | 201 | 214 | Patients admitted to the hospitals with urological non-neoplastic
diseases, including hydronephrosis, urolithiasis, malformative urological diseases, prostatic adenoma and hypertrophy, urological traumas, orchiepididymitis, hydrocele and unspecified urinary symptoms

| bladder-cancer | 502444 | Quirk 2004 | Adult patients admitted to the Roswell Park Cancer Institute New York, United States | Case-control | Both | 19 | 94 | Self-administered questionnaire | Incidence | Physician diagnosis, biomarker | Bladder cancer | 499 | 1922 | Patients at Roswell Park Cancer Institute who were discharged without a diagnosis of malignancy |
| bladder-cancer | 502425 | Gaertner 2004 | Cases from provincial cancer registries Canada | Case-control | Both | 20 | 74 | Mailed questionnaires | Incidence | Cancer registry | Bladder cancer | 887 | 2847 | General populatio n in Newfoun dland and Alberta |
| Fractures | Fractures | Johansson 2004 | Randomly selected residents | Sheffield, United Kingdom | Prospective cohort | Femal e | Interview | Incidence | Self-report | Fractures |
|----------|----------|----------------|----------------------------|--------------------------|--------------------|--------|-----------|-----------|-------------|-----------|
| 165283   | 414212   | van der Klii 2004 | All 10,275 inhabitants of Ommoor, a district in Rotterdam, the Netherlands, were invited to participate | Ommoor, Rotterdam, Netherlands | Prospective cohort | Both | 63 | 55 | 99 | Interview; clinical examination | Incidence | Clinic visit | 26,561 | 157 | 4216 | Vertebral fracture |

| Lung cancer | Lung cancer | Marugame 2005 | Three-Prefecture Cohort Study | Adults in Miyagi, Aichi, and Osaka | Japan | Prospective cohort | Both | 10 | 40 | 80 | Self-administered questionnaire | Mortality | Disease registry | 748935 | 598 | 88153 | Lung cancer |

| COPD | COPD | Johansson 2005 | Hordaland County Study | General adult population of the county of Hordaland | Norway | Prospective cohort | Both | 9 | 18 | 74 | Mailed questionnaire | Incidence | Biomarker | 40 | 908 | COPD |

| IHD | IHD | Bjartveit 2005 | Residents of Oslo and three Norwegian counties | Norway | Prospective cohort | Both | 30 | 35 | 49 | Self-administered questionnaire | Mortality | Vital records | 1087107 | 2253 | 42722 | Ischemic heart disease (ICD-9 410-414; ICD-10 I20-I25) |

| IHD | IHD | Woodward 2005 | Asia Pacific Cohort Studies Collaboration | Varied Asian and Australasian populations | Multi-country | Pooled prospective cohort | Both | 6.8 | 20 | 99 | Self-reported | Incidence or Mortality | Unspecified | 3000000 | 3976 | 562338 | Coronary heart disease (ICD 410-414) |

| Stroke | Stroke | Iso 2005 | Japan Collaborative Cohort Study for Evaluation of Cancer Risk | Residents of 45 study areas | Japan | Prospective cohort | Both | 9.9 | 40 | 79 | Self-administered questionnaire | Mortality | Vital records | 212219 | 698 | 94683 | Total stroke |

| Stroke | Stroke | Woodward 2005 | Asia Pacific Cohort Studies Collaboration | Varied Asian and Australasian populations | Multi-country | Pooled prospective cohort | Both | 20 | 99 | Self-reported | Incidence or Mortality | Unspecified | 387900 | 5930 | 562338 | Stroke (430-438), hemorrhagic stroke (431.0-432.9), ischemic stroke |
| diabetes | 255463 | Waki 2005 | JPHC Cohort I | Residents in one of 14 administrative districts supervised by four public health centres (Iwate, Akita, Nagano, and Okinawa Prefectures) | Japan | Prospective cohort | Both | 10 | 40 | 59 | Self-administered questionnaire | Incidence | Self report, physician diagnosis | 1183 | 28893 | Type 2 diabetes |
| diabetes | 348105 | Patja 2005 | Random sample of Finnish residents | Finland | Prospective cohort | Both | 21 | 25 | 64 | Self-administered questionnaire | Incidence | Disease registry | 850728 | 2770 | 41372 | Type 2 diabetes |
| esophageal_cancer | 345310 | Sakata 2005 | Residents of 45 study areas | Japan | Prospective cohort | Male | 12.7 | 40 | 79 | Self-administered questionnaire | Mortality | Vital records | 414646 | 100 | 42,578 | Esophageal cancer |
| stomach_cancer | 347810 | Fujino 2005 | Health individuals from 45 areas across Japan | Japan | Prospective cohort | Both | 9.9 | 40 | 79 | Self-administered questionnaire | Mortality | Death certificates | 970251 | 757 | 98062 | Stomach cancer (ICD-10 C16) |
| breast_cancer | 310414 | Gram 2005 | General female population in Norway and general population residing in the Uppsala Health Care Region in Sweden | Norway, Sweden | Prospective cohort | Femal e | 9.1 | 30 | 50 | Self-administered questionnaire | Incidence | National registries of cancer and statistics | 924768 | 1240 | 102098 | Primary invasive breast cancer |
| pancreatic_cancer | 164536 | Larsson 2005 | Men and women residing in central Sweden (Vastmanland, Uppsala, Sweden | Sweden | Prospective cohort | Both | 6.6 | 18 | 99 | Self-administered questionnaire | Incidence | Disease registry | 560666 | 136 | 83053 | Pancreatic cancer (ICD-9, 157) |
| Study | Study Code | Participant Characteristics | Design | Exposure | Outcome | Follow-up Method | Sample Size | Follow-up | Source |
|-------|------------|----------------------------|--------|----------|---------|----------------|------------|-----------|--------|
| kidney cancer | 164492 | Female nurses and male health professionals in the US | United States | Prospective cohort | Both | 30 | Self-administered questionnaire | Incidence Medical records, vital records | 265 | 167144 | Renal cell carcinoma |
| cataracts | 263023 | Women living in Uppsala and Vastmanland County, Sweden | Sweden | Prospective cohort | Female | 5 | Self-administered questionnaire | Incidence Disease registry, vital records | 2128 | 34595 | Age-related cataract extraction (ICD-10, H25) |
| lbp | 259680 | Residents of study areas | Multi-location | Pooled prospective cohort | Both | 18 | Follow-up survey questionnaire | Incidence Self-reported in follow-up survey questionnaire | 143 | 1928 | First episode of back pain in the past year |
| fractures | 394006 | Residents of study areas | Multi-location | Pooled prospective cohort | Both | 18 | Varied | Incidence Varied | 249897 | 5444 | 59232 | Fracture |
| Study | ID   | Authors | Year | Location | Study Design | Gender | Age Median | Case-Only | Study Methodology | Reference Diagnosis | Cases | Controls | Country | Region | Hospitalization | Clinical Diagnosis | Tools Used | Tumor Registry | Cancer Surveillance System | Incidence Method | Incidence Source | Selected from Health Care Financing Administration Records |
|-------|------|---------|------|----------|--------------|--------|------------|-----------|------------------|---------------------|-------|----------|---------|--------|----------------|-----------------|------------|----------------|-------------------|-----------------|---------------------|---------------------------------------------|
| ibd   | 357927 | Rastogi | 2005 | Urban hospitals in Bangalore and New Delhi, India | Case-control | Male | 21 | 74 | Administered interview | Hospitalization | Clinical diagnosis | Definite myocardial infarction | 309 | 618 | Hospital | |
| stroke | 358470 | Song | 2005 | Male Korean public servants that received health examination by the national insurance scheme, South Korea | Case-control | Male | 18 | 99 | Self-administered questionnaire | Incidence | Hospital discharge records, physician confirmation | Acute first ischemic stroke | 290 | 1160 | Population | |
| liver_cancer | 343590 | Gelatti | 2005 | Cases and controls were recruited from 3 major hospitals in Brescia, at the Aviano Cancer Center and at the Pordenone General Hospital, Friuli-Venezia Giulia, Italy | Case-control | Both | 40 | 79 | Personal interviews | Incidence | Histology, cytology, sonography/ tomography | Hepatocellular carcinoma | 200 | 400 | Hospital based | |
| liver_cancer | 125938 | Marrero | 2005 | Cases and controls from the Liver or General Medicine Clinics at University of Michigan, United States | Case-control | Both | 18 | 99 | Personal interviews | Incidence | Histopathologically confirmed cases | Hepatocellular carcinoma | 70 | 70 | Hospital based | |
| breast_cancer | 310428 | Li | 2005 | Three county Seattle-Puget Sound metropolitan area with no history of in situ or invasive breast cancer, United States | Case-control | Female | 65 | 79 | Interview | Incidence | Cancer Surveillance System tumor registry | Invasive breast cancer | 975 | 1007 | Selected from Health Care Financing Administration records |
| Study | ID   | Year | Cohort | Location | Methodology | Data Sources | Disease | Controls | Population |
|-------|------|------|--------|----------|-------------|--------------|---------|----------|------------|
| Kelsey | 414208 | 2005 | Patients in five Kaiser Permanente medical centers | United States | Case-control | Both | 45 | Standardized administered questionnaire | Incidence | Radiology reports and medical records | Pelvis fracture, except for coccyx fracture | 192 | 2402 | Clinic members |
| Kennedy | 465261 | 2005 | Residents of 4 communities in North Carolina, California, Maryland, and Pennsylvania | United States | Prospective cohort | Both | 6 | Medical history | Incidence | Physical examination | Peripheral vascular disease | 218 | 2289 |
| Hervas | 464776 | 2005 | Residents of a basic health zone | Spain | Case-control | Both | 45 | Medical records | Incidence | Medical records, clinical diagnosis | Stroke | 91 | 182 | Population |
| Wanhainen | 464989 | 2005 | Residents living in the Norsjo municipality | Sweden | Case-control | Both | 65 | Self-administered questionnaire | Incidence | Clinical diagnosis | Aortic aneurysm | 35 | 140 | Population |
| Zheng | 465266 | 2005 | Black and white Americans | United States | Cross-sectional | Both | 45 | Self-report | Prevalence | Biomarker | Peripheral artery disease | 464 | 15173 | 3944 |
| Jensen | 465268 | 2005 | General population of Nord-Trondelag County | Norway | Cross-sectional | Both | 40 | Mailed questionnaire | Prevalence | Self-report | Peripheral artery disease | 230 | 19748 | 6070 |
| Kasim | 502419 | 2005 | Participants in the Canadian National Enhanced Cancer Surveillance System | Canada | Case-control | Both | 20 | Mailed questionnaires | Incidence | Cancer registry | Leukemia | 1068 | 5034 | Individuals from provincial health insurance plans per province, and random-digit dialing |
| Cao | 343198 | 2005 | Hospital patients | New York, United States | Case-control | Both | 18 | Structured questionnaire | Incidence | Biomarker | Bladder cancer | 233 | 204 | From the hospitals blood bank |
| Band | 502431 | 2005 | Patients from British Columbia | Canada | Case-control | Male | 20 | Self-administered questionnaire | Incidence | Cancer registry | Bladder cancer | 1125 | 8492 | Controls consisting of all |
| Study Type | Number | Authors | Year | Study Description | Country | Design | Gender | Study Size | Study Size | Method | Location | Summarized in | Cancer Registry | Other Cancer Sites, Excluding Lung Cancer and Cancers of Unknown Primary Site |
|------------|--------|---------|------|-------------------|---------|--------|--------|------------|------------|---------|-----------|--------------|----------------|--------------------------------------------------|
| kidney cancer | 413175 | Hu | 2005 | Patients with kidney cancer in provincial cancer registries | Canada | Case-control | Both | 20 | 99 | Self-administered questionnaire | Cancer registry | Kidney cancer | 1279 | 5380 | From the general population within a province |
| fractures | 498418 | Olofsson | 2005 | Men born between 1920 and 1924 living in the municipality of Uppsala, Sweden | Sweden | Prospective cohort | Male | 30 | 49 | Questionnaire and interview and examination | Hospital records | 57755 | 272 | 2322 | Fracture |
| lung cancer | 502433 | Sreeja | 2005 | Female patients with newly diagnosed lung cancer from Prague University Hospital | Kerela, India | case-control | Both | 25 | 90 | Self-administered questionnaire | Hospital records | Lung cancer | 366 | 1624 | Hospital Visitor |
| IHD | 298268 | Gun | 2006 | Employees of Australian Institute of Petroleum companies | Australia | Prospective cohort | Male | 20 | 30 | 99 | Administered questionnaire | Vital records | 242368 | 295 | Ischemic heart disease |
| Asthma | 346726 | Gemuneit | 2006 | 9-11 year old participants in phase II of the ISAAC II study in Munich and Dresden | Germany | Prospective cohort | Both | 8 | 9 | 11 | Self-administered questionnaire | Physician diagnosis | Asthma | 64 | 2936 | |
| Condition | Study ID | Year | Study Name | Population Details | Study Design | Data Collected | Analysis Method | Ref. | No. | Reference | Notes |
|-----------|----------|------|------------|--------------------|--------------|----------------|----------------|------|----|-----------|-------|
| Asthma    | 346728   | 2006 | Children's Health Study | School-aged children in 12 Southern California communities | Prospective cohort | Both | 8 8 15 | Administered interview | Gilliland 2006 | 255 2609 | Asthma |
| Diabetes  | 348108   | 2006 | MONICA     | Residents from Augsburg, Germany | Prospective cohort | Both | 18 25 74 | Personal interview | Meisinger 2006 | 672 10892 | Type 2 diabetes mellitus |
| LBP       | 348208   | 2006 | Danish Twin Registry | Twins of any zygosity, but the researchers noted that the twins who participated in the study are representative of the general population | Prospective cohort | Both | 8 12 22 | Self-administered questionnaire | Hestbaek 2006 | 636 6554 | Low back pain during the past year |
| Rheumatoid arthritis | 261500   | 2006 | Nurses’ Health Study | Female nurses | Prospective cohort | Female | 22.1 30 55 | Mailed questionnaire | Kostenbader 2006 | 229075 9 | Rheumatoid arthritis or other connective tissue diseases |
| CVD       | 120239   | 2006 | General elderly metropolitan population of Beijing | China | Cross-sectional | Both | 60 95 | Interview | He 2006 | 462 2334 | Peripheral artery disease |
| CVD       | 140176   | 2006 | General elderly population of Hong Kong | Hong Kong | Cross-sectional | Both | 65 83 | Interview | Woo 2006 | 23 3998 | Peripheral artery disease |
| CVD       | 465078   | 2006 | General population free of clinically apparent cardiovascular disease | United States | Cross-sectional | Both | 45 85 | Questionnaire | Allison 2006 | 275 6653 | Peripheral artery disease |
| Study | Code | Authors | Year | Population | Design | Age | Gender | Method | Measure | N | N | N | Procedure | N | N | Disease |
|-------|------|---------|------|------------|--------|-----|--------|--------|---------|---|---|---|------------|---|---|----------|
| cvd   | 465260 | Collins | 2006 | Primary care patients within Harris County, Texas | United States | Cross-sectional | Both | 63 65 | Interview-administered Lifestyle and Clinical Survey (LCS) | Prevalence | Biomarker | 67 403 | Peripheral artery disease | 76 |
| cvd   | 465262 | Cui     | 2006 | Elderly male population residing in farming communities | Japan | Cross-sectional | Male | 60 79 | Interview | Prevalence | Biomarker | 60 1215 | Peripheral artery disease | 492 |
| bladder cancer | 502486 | Puente | 2006 | Hospital patients and individuals from the general population | Germany, Spain, Italy, United States, France, Greece, Denmark, Canada | Case-control | Both | 30 79 | Interview | Incidence | Biomarker | Bladder cancer | 8316 17406 | From general population and hospitals |
| bladder cancer | 502464 | Samanic | 2006 | Hospital patients in Barcelona, Valles, Asturias, Alicante, and Tenerife | Spain | Case-control | Both | 21 80 | Computer-assisted interview | Incidence | Physician diagnosis | Bladder cancer | 1219 1271 | Hospital patients with other diagnoses excluding cancer |
| fractures | 498421 | Holmberg | 2006 | Middle-aged population | Sweden | Prospective cohort | Both | 12.5 27 61 | Questionnaire and examination | Incidence | Hospital records | Fracture | 416825 2535 33346 | |
| fractures | 498406 | White | 2006 | The Leisure World Cohort Study | Southern California, United States | Prospective cohort | Both | 2 73 99 | Questionnaire | Incidence | Self-report | Hip fracture | 49586 278 4769 | |
| ihd   | 330932 | Lam     | 2007 | Elderly Chinese adults enrolled in 18 Elderly Health Centers | Hong Kong | Prospective cohort | Both | 4.1 65 99 | Structured interviews | Mortality | Vital records | Ischemic heart disease | 73291 190 56167 | |
| stroke | 330932 | Lam     | 2007 | Elderly Chinese adults enrolled in 18 Elderly Health Centers | Hong Kong | Prospective cohort | Both | 4.1 65 99 | Structured interviews | Mortality | Vital records | Stroke | 86992 191 54216 | |
| Study | Identifier | Country | Population | Years Followed | Study Details | Methods | Disease | n | Incidence | Mortality | Notes |
|-------|------------|---------|------------|----------------|---------------|---------|--------|---|-----------|-----------|-------|
| Cohort Study for Evaluation of Cancer (JACC) | 328339 | Japan | Residents of 45 study areas | 2005-2007 | Mailed questionnaire | Self-administered questionnaire | Mortality | | | | Esophageal cancer |
| Cohort Study for Evaluation of Cancer (JACC) | 328339 | Japan | Residents of 45 study areas | 2005-2007 | Mailed questionnaire | Self-administered questionnaire | Mortality | | | | Leukemia |
| Cohort Study for Evaluation of Cancer (JACC) | 328339 | Japan | Residents of 45 study areas | 2005-2007 | Mailed questionnaire | Self-administered questionnaire | Mortality | | | | Leukemia |
| Kaiser Permanente Multiphasic Cohort Study | 358453 | United States | Subscribers of Kaiser Permanente (KP) who attended voluntary Multiphasic Health Checkups at KP locations in Oakland and San Francisco | 1963-2003 | Self-administered questionnaire | Incidence | Physician diagnosis | | | | Abdominal aortic aneurysm |
| Kaiser Permanente Multiphasic Cohort Study | 358453 | United States | Subscribers of Kaiser Permanente (KP) who attended voluntary Multiphasic Health Checkups at KP locations in Oakland and San Francisco | 1963-2003 | Self-administered questionnaire | Incidence | Physician diagnosis | | | | Abdominal aortic aneurysm |
| Health Professional Follow-up Study | 358453 | United States | Male health professionals | 1980-2004 | Self-administered questionnaire | Incidence | Medical records, self-report, vital records | | | | Tuberculosis |
| Mumbai Cohort Study | 359230 | India | Male population living in the main (island) city of Mumbai | 1980-2004 | Interview | | | | | | Tuberculosis |
| Rohmann 2007 | 347451 | United States | 1963 Washington County Census Cohort | Washington County households | Self-administered questionnaire | Incidence & Mortality | Disease registry | | | | Prostate cancer |
| Thacker 2007 | 359159 | United States | General population | United States | Self-report, physician diagnosis, medical records | Incidence | | | | | Parkinson disease |

**Notes:**
- The table provides a summary of various cohort studies, including their identifiers, countries, population details, years followed, study specifics, methods of data collection, diseases studied, and other relevant information.
- The table includes detailed information on the number of individuals (n), incidence rates, mortality rates, and notes on specific types of cancer and diseases.

**Key Points:**
- The studies encompass a wide range of cancers and diseases, including prostate cancer, esophageal cancer, and abdominal aortic aneurysm.
- Various methods of data collection are utilized, including self-administered questionnaires, medical records, and physician diagnoses.
- The studies span different time periods and countries, providing a comprehensive overview of research in these areas.
| Study Area   | Author   | Year | Population Description                                                                 | Study Design          | Gender | Age Range | Subjects | Study Type | Disease Code       | Cases | Deaths | Study Type   |
|-------------|----------|------|----------------------------------------------------------------------------------------|-----------------------|--------|-----------|----------|-------------|------------------|-------|--------|-------------|
| liver cancer | Ozasa    | 2007 | Residents from 45 areas in Japan                                                        | Prospective cohort    | Both   | 20-79     | 328339   | Self-administered questionnaire | Disease registry, vital records | 125797 | 4       | 620         | 109778 | Liver cancer (ICD-10, C22) |
| breast cancer| Ozasa    | 2007 | General population                                                                       | Prospective cohort    | Female | 12.9-79   | 328339   | Self-administered questionnaire | Mortality | 817669 | 103      | 63600       | Breast cancer |
| cervical cancer | Ozasa   | 2007 | Residents of 45 study areas in Japan                                                    | Prospective cohort    | Both   | 12.7-79   | 328339   | Self-administered questionnaire | Mortality | 709227 | 33       | 63600       | Cervix uteri cancer (ICD-10 C53) |
| colon and rectum cancer | Ozasa   | 2007 | Residents living in 45 areas across Japan without previous history of cancer            | Prospective cohort    | Both   | 12.7-79   | 328339   | Self-administered questionnaire | Mortality | 139314 | 484      | 109778      | Cancer of the colon (ICD-10 C18), cancer of the rectum (ICD-10 C19-20) |
| pancreatic cancer | Luo    | 2007 | All registered Japanese inhabitants in 11 public health centers throughout Japan        | Prospective cohort    | Male   | 11-69     | 164547   | Self-administered questionnaire | Incidence | 106323 | 224      | 99670       | Pancreatic cancer |
| kidney cancer | Ozasa    | 2007 | Residents from 45 areas in Japan                                                         | Prospective cohort    | Both   | 20-79     | 328339   | Self-administered questionnaire | Mortality | 125797 | 56       | 109778      | Kidney cancer (ICD-10, C64) |
| prostate cancer| Ozasa    | 2007 | Population recruitment in 45 across the whole of Japan                                   | Prospective cohort    | Male   | 12.5-79   | 328339   | Self-administered questionnaire | Mortality | 404992 | 105      | 46178       | Prostate cancer (ICD-10 C61) |
| Study | Reference | Population Characteristics | Methodology | Analysis | Sample Size | Population Size |
|-------|------------|-----------------------------|-------------|----------|-------------|----------------|
| ihd   | Kabagambie 2007 | Hispanic Americans in the central valley, Costa Rica | Case-control | Both | 18 99 | Administered questionnaire | Non-fatal hospitalization by two cardiologists | Non-fatal acute myocardial infarction | 889 1167 |
| ihd   | Oliveira 2007 | Residents of the catchment area of select hospitals in Porto, Portugal | Case-control | Both | 18 45 | Administered questionnaire | Hospitalization | Clinical diagnosis | First incidence of acute myocardial infarction | 329 778 |
| breast_cancer | Magnusson 2007 | Swedish-born females, Sweden | Case-control | Female | 50 74 | Mailed questionnaire | Incidence | Regional Cancer Registries | Invasive breast cancer | 3345 3454 |
| cvd   | Tapp 2007 | Data from an Epidemiological Study of the Insulin Resistance Syndrome (DESIR), France | Prospective cohort | Both | 6 30 65 | Questionnaire | Incidence | Medical examination, including ankle brachial pressure index and symptom questions | Peripheral vascular disease | 173 3632 |
| cvd   | Hozawa 2007 | Household members older than 30 years old in 300 census tracts, Japan | Prospective cohort | Both | 19 30 | Administered questionnaire | Mortality | Vital records | Cardiovascular diseases | 154767 604 8912 |
| cvd   | Lipska 2007 | Patients at the Sree Chitra Tirunal Institute for Medical Sciences and Technology, Trivandrum, Kerala, India | Case-control | Both | 15 45 | Interview | Incidence | Medical diagnosis | Ischemic stroke | 214 195 |
| Study | Abbreviation | Year | Authors | Design | Population | Country | Characteristics | Type | Source | Disease | Prevalence | Biomarker | Cases | Controls | p-value | Odds Ratio | Notes |
|-------|--------------|------|---------|--------|-----------|---------|----------------|------|--------|---------|------------|-----------|--------|----------|--------|------------|-------|
| cvd   | 465264       | 2007 | Sritara | Cross-sectional | Both | 52 | Self-administered questionnaire | Thailand | CVD | Peripheral artery disease | 121 | 2305 |
| parkinson | 359159 | 2007 | Thacker | Prospective cohort | Both | 8.4 | Mailed questionnaire | United States | Parkinson disease | Self-report, physician diagnosis, medical records | 120826 4 | 405 | 143325 |
| kidney_cancer | 164580 | 2007 | Setiawan | Prospective cohort | Both | 8.3 | Self-administered questionnaire | Hawaii and California | Kidney cancer | Cancer registry | 134888 1 | 347 | 161126 |
| fractures | 414206 | 2007 | Robbins | Prospective cohort | Femal e | 7.6 | Interview | United States | Hip fracture | | 711,938 | 791 | 93676 |
| lung_cancer | 358577 | 2008 | Shimazu | Prospective cohort | Male | 14 | Self-administered questionnaire | Japan | Lung cancer | Voluntary reports from major hospitals, disease registries, and vital records | 536325 | 561 | 50364 |
| ihd   | 331705       | 2008 | Lawlor  | Prospective cohort | Male | 10 | Questionnaire | South Korea | Myocardial infarction (ICD-10 I21-I24) | Medical claim data, vital records | 648346 | 3329 | 648346 |
| stroke | 155207       | 2008 | Chiuve  | Prospective cohort | Both | 20 | Questionnaire | United States | Stroke | Medical records, self-reported hospitalization | 2553 | 114928 | Total stroke |
| Study | ID | Authors | Year | Population | Country | Methodology | Outcomes | Methods | Sample Size | Follow-up | Mortality | Code(s) | Notes |
|-------|----|---------|------|------------|---------|-------------|----------|---------|-------------|-----------|-----------|---------|-------|
| Health Study | 330677 | Kelly | 2008 | Adults on mainland China | China | Prospective cohort | Both | 8.3 40 99 | Administered questionnaire | Incidence or Mortality | Medical records, vital records, verbal autopsy | 678 | 155131 Stroke |
| Nurses' Health Study | 343306 | Kenfield | 2008 | Female registered nurses | United States | Prospective cohort | Female | 24 30 55 | Self-administered questionnaire | Mortality | Medical records, vital records, verbal autopsy | 232370 4 734 | 104519 Cerebrovascular disease |
| Korean National Health System Prospective Cohort Study | 331705 | Lawlor | 2008 | Male Korean public servants | South Korea | Prospective cohort | Male | 10 30 64 | Questionnaire | Hospitalization or Mortality | Medical claim data, vital records | 571841 3 | 9475 648346 All strokes (I60–I69), ischemic (I63, I67.8), intracerebral hemorrhage (I61), subarachnoid stroke (I60) |
| Nurse's Health Study | 348112 | NON-ENGLISH SOURCE | 2008 | Republic of Korea | Retrospective cohort | Male | | | Incidence | | 50 1717 Type 2 diabetes |
| The Rotterdam Study | 350084 | Heeringa | 2008 | Residents of Ommoord | The Netherlands | Prospective cohort | Both | 7.2 55 99 | Computerized questionnaire | Incidence | ECG results | 371 | 5668 Atrial fibrillation or atrial flutter |
| Korean National Health System Prospective Cohort Study | 331705 | Lawlor | 2008 | Korean male public servants who underwent a health examination through the Korean Medical Insurance Corporation | Republic of Korea | Prospective cohort | Male | 10 30 64 | Self-administered questionnaire | Incidence & Mortality | Vital records, hospital admission data | 447212 9 | 269 648346 Aortic aneurysm (ICD-10, I71) |
| Residents of Washington County, Maryland 25 years old or older | 347935 | Hooker | 2008 | United States | Prospective cohort | Both | 11.8 25 99 | Mailed questionnaire | Incidence | Washington County Cancer Registry | 539590 148 | 45749 Rectal carcinoma (ICD-8 154.0-154.8) |
| Study ID | Year | Authors | Methodology | Population | Exposure | Age | Sex | Data Collection | Diagnosis | Reference | Notes |
|----------|------|---------|-------------|------------|----------|-----|-----|----------------|-----------|-----------|-------|
| IbP      | 348206 | Mikkonen 2008 | Subcohort of Northern Finland Birth Cohort 1986 comprised of study participants who lived within 100 km of the city of Oulu | Finland | Prospective cohort | Both | 2 | 16 | 16 | Incidence | Mailed questionnaire | 539 | 1987 | Incident cases were defined as those reporting LBP at 18 but not at 16 years of age and persistent cases as those reporting LBP at both time points |
| Stroke   | 344315 | Bhat 2008 | Residents of the greater Baltimore-Washington area | United States | Case-control | Female | 18 | 49 | Standardized interviews | Hospitalization, discharge surveillance, medical records | First cerebral infarction | 466 | 604 | Population |
| TB       | 359225 | Dhamgaye 2008 | Population in a catchment area of a tuberculosis hospital in Yavatmal district | India | Case-control | Male | 20 | 99 | Interview | Incidence | Physician diagnosis, biomarker | Active pulmonary tuberculosis | 153 | 160 | Healthy individuals who were accompanying other patients to the same hospital as the cases |
| Afib_and_flutter | 350091 | Maattioli 2008 | Family doctor patients | Italy | Case-control | Both | Interview | Incidence | Clinical examination and ECG confirmation | Acute lone atrial fibrillation | 400 | 400 | Clinic-based |
| Alzheimer_other_dementia | 358834 | Ikeda 2008 | Elderly adults from the town of Kyowa | Ibaraki, Japan | Nested case-control | Both | Personal interview | Incidence | Physician diagnosis | Dementia | 208 | 416 | General population |
| CVD      | 330677 | Kelly 2008 | Adults on mainland China | China | Prospective cohort | Both | 8.3 | 40 | 99 | Administered questionnaire | Incidence or Mortality | Medical records, vital | 678 | 155131 | Stroke |
| CVD   | Study ID | Reference | Design          | Country | Gender | Age Range | Exposure | Assessment Method | Outcome Measures | N     | Mortality N | Cause of Death |
|-------|----------|-----------|-----------------|---------|--------|-----------|----------|-------------------|-----------------|-------|-------------|----------------|
| cvd   | 331705   | Lawlor    | 2008            | Korean National Health System Prospective Cohort Study | Male Korean public servants | South Korea | Prospective cohort | Male | 10 30 64 | Self-administered questionnaire Hospitalization or Mortality Medical claim data, vital records | 648346 | 3329 | 648346       | Myocardial infarction (ICD-10 I21-I24) |
| cvd   | 331705   | Lawlor    | 2008            | Korean National Health System Prospective Cohort Study | Male Korean public servants | South Korea | Prospective cohort | Male | 10 30 64 | Self-administered questionnaire Hospitalization or Mortality Medical claim data, vital records | 648346 | 9475 | 648346       | All strokes (I60–I69), ischemic (I63, I67.8), intracerebral hemorrhage (I61), subarachnoid stroke (I60) |
| cvd   | 331705   | Lawlor    | 2008            | Korean National Health System Prospective Cohort Study | Male Korean public servants | South Korea | Prospective cohort | Male | 10 30 64 | Self-administered questionnaire Incidence or Mortality Vital records, hospital admission data | 447212 | 269  | 648346       | Aortic aneurysm (ICD-10, I71) |
| cvd   | 343306   | Kenfield  | 2008            | Nurses’ Health Study | Female registered nurses | United States | Prospective cohort | Female | 24 30 55 | Self-administered questionnaire Mortality Familial reporting, vital records | 232370 | 734  | 104519       | Cerebrovascular disease |
| cvd   | 350084   | Heeringa  | 2008            | The Rotterdam Study | Residents of Ommoord | The Netherlands | Prospective cohort | Both | 7.2 55 99 | Computerized questionnaire Incidence ECG results | 371  | 5668 |             | Atrial fibrillation or atrial flutter |
| cvd   | 463463   | Kubo      | 2008            | Hisayama Study | Residents of Hisayama | Japan | Prospective cohort | Both | 13 40 84 | Standardized questionnaire Incidence or Mortality Follow-up, autopsy reports, clinical records | 60353  | 430  | 5293         | Ischemic stroke |
| cvd   | 344315   | Bhat      | 2008            | Residents of the greater Baltimore-Washington area | United States | Case-control | Female | 18 49 | Standardized interviews Hospitalization Discharge surveillance, medical records | 466  | 604  |             | First cerebral infarction |
| cvd   | 464531   | Koshy     | 2008            | Patients from the | India | Case-control | Both | 22 75 | Incidence Clinical records | 122  | 224  |             | Subarachnoid |

**Notes**
- **Hypertension Survey**: Korean National Health System Prospective Cohort Study
- **Lawlor 2008**: Korean National Health System Prospective Cohort Study
- **Korean National Health System Prospective Cohort Study**: Korean National Health System Prospective Cohort Study
- **Male Korean public servants**: South Korea
- **Self-administered questionnaire**: Hospitalization or Mortality Medical claim data, vital records
- **All strokes (I60–I69)**: ischemic (I63, I67.8), intracerebral hemorrhage (I61), subarachnoid stroke (I60)
- **Aortic aneurysm (ICD-10, I71)**
- **Cerebrovascular disease**
- **Atrial fibrillation or atrial flutter**
- **Ischemic stroke**
- **First cerebral infarction**
- **Subarachnoid**
- **Population**
| Study | cvd | 465070 | Schgoer | 2008 | Patients from the St. John of God Hospital in Linz, Austria | Austria | Nested case-control | Both | 46 | 88 | Hospitalization | Clinical diagnosis | Peripheral vascular disease | 433 | 433 | Cohort population |
|-------|-----|--------|---------|------|---------------------------------------------------------------|--------|-------------------|------|----|----|-----------------|-------------------|------------------------|------|------|------------------|
| Study | Stroke | 429295 | Lu | 2008 | Swedish Women's Lifestyle and Health Cohort Study | Sweden | Prospective cohort | Female | 11.4 | 30 | 50 | Self-administered questionnaire | Incidence | Disease registry | 518118 | 170 | 45449 |
| Study | lip_oral_cavity_cancer | 286841 | Muwonge R | 2008 | Apparently healthy individuals aged 35 years and above living in 13 clusters called 'panchayaths' | India | Case-control | Both | 35 | 75 | Self-report | Incidence of oral cavity cancer | Death certificates | Lip and Oral Cavity Cancer | 282 | 1410 | Cohort population |
| Study          | N  | Country       | Study Design   | Sex | Age | Study Population                                                                 | Study Details                                                                 | Incidence | Biomarker | Disease          |
|---------------|----|---------------|----------------|-----|-----|----------------------------------------------------------------------------------|--------------------------------------------------------------------------------|-----------|------------|------------------|
| bladder_cancer | 502415 | Liang 2008   | Patients from the Texas M.D. Anderson Cancer Center and Baylor College of Medicine | Both | 31 95 | Structured questionnaire | Incidence | Physician diagnosis, biomarker | Bladder cancer | 386 389 | Healthy individuals coming to the clinics for annual health check-ups |
| bladder_cancer | 502435 | Covolo 2008   | Male residents in Brescia province (Northern Italy) | Male | 30 80 | Structured interview | Incidence | Biomarker | Bladder cancer | 197 211 | Resident individuals in Brescia province |
| kidney_cancer | 502427 | Theis 2008   | Hospital patients | Both | 20 99 | Structured questionnaire | Incidence | Hospital records | Kidney cancer | 304 337 | From random-digit dialing |
| kidney_cancer | 502448 | Demirel 2008 | Hospital patients | Both | 20 79 | Standardized interviews | Incidence | Hospital records | Kidney cancer | 1097 1476 | Patients from the same hospitals |
| copd           | 115406 | Van Durme 2009 | Rotterdam Study | Both | 8.8 55 99 | Interview | Incidence | Hospital discharge records, medical records, biomarker | COPD | 70209 648 7983 | Definite or probable COPD |
| stroke        | 335914 | Honjo 2009  | Japanese adults | Both | 9.6 40 79 | Screening survey | Mortality | Vital records | Stroke | 285539 5 3131 296836 | Stroke |
| Study                                      | ID    | First name | Year | Country/Region | Study Details | Sample Size | Incidence | Morbidity | Prognosis | Follow-up | Health records | Disease Details | Additional Details |
|--------------------------------------------|-------|------------|------|----------------|---------------|-------------|-----------|-----------|------------|-----------|-----------------|-----------------|------------------|
| Three-Prefecture Cohort Study; JACC Study  | tb    | Lin        | 2009 | Taiwan         | General population of the general population in Taiwan | Both 3.3 12 99 | Administrat  | Incidence | National Health Insurance database | 54 | 16820 | Active Tuberculosis |                    |
| Enrollees in the National Health Insurance Corporation | tb    | Jee        | 2009 | South Korea    | Prospective cohort in South Korea | Both 12.8 30 95 | Administered questionnaire | Incidence & Mortality | Physician diagnosis, medication data, outpatient and hospitalization records, death data | 165400 00 | 827 | 124504 | Tuberculosis |                    |
| Men and women 35 years and older who resided in Takayama, Gifu | asthma | Nakamura   | 2009 | Gifu, Japan    | Prospective cohort in Gifu, Japan | Both 10 35 69 | Self-administered questionnaire | Incidence | Physician diagnosis | 120609 | 197 | 12394 | Asthma |                    |
| Permanent residents or citizens living in government-built housing | prostate_cancer | Buitler | 2009 | Singapore      | Prospective cohort in Singapore | Male 10.4 45 74 | In-person interview | Incidence | Clinical diagnosis, histological confirmation | 224661 | 181 | 27293 | Invasive prostate cancer |                    |
| NIH-AARP Diet and Health Study | prostate_cancer | Watters | 2009 | United States  | Prospective cohort in the United States | Male 7 50 71 | Mailed questionnaire | Incidence | Disease registry, vital records | 16640 | 28332 | Prostate cancer |                    |
| Men born in Goteborg | a fibrillation | Rosengren | 2009 | Sweden         | Prospective cohort in Sweden | Male 34.3 47 56 | Medical screening | Hospitalization or mortality | Hospital discharge records | 1253 | 6903 | Atrial fibrillation |                    |
| Residents of Tromso, Norway | abdominal aneurysm | Forsdahl | 2009 | Norway         | Prospective cohort in Norway | Both 7 25 82 | Self-administered questionnaire | Incidence | Physician diagnosis, ultrasound examination | 119 | 4345 | Abdominal aortic aneurysm |                    |
| Participants from 13 Finland, Greece, Italy | Alzheimer's other dementia | Alonso | 2009 | Finland         | Prospective cohort in Finland, Greece, Italy | Male 40 40 59 | Self-administered questionnaire | Mortality | Vital records, clinical | 258104 | 160 | 10211 | Dementia |                    |
| Study ID | Authors | Year | Study Details | Country | Cohort Type | Gender | Age (mean) | Person-years | Incidence | Data Source | New Diagnosis |
|----------|---------|------|---------------|---------|-------------|--------|------------|-------------|-----------|-------------|---------------|
| parkinson | Driver | 2009 | Physicians' Health Study (PHS) | United States | Prospective cohort | Male | 21.3 | 40 | 84 | Mailed questionnaire | Incidence | Self-report, medical records | Parkinson disease |
| esophageal_cancer | Ishiguro | 2009 | Japan Public Health Center-based Prospective Study on Cancer and Cardiovascular Disease (JPHC study) | Japan | Prospective cohort | Male | 14 | 40 | 59 | Self-administered questionnaire | Incidence | Vital records, Disease registry | Esophageal squamous cell carcinoma |
| colon_and_rectum_cancer | Gram | 2009 | The Norwegian Women and Cancer (NOWAC) Study | Norway | Prospective cohort | Female | 7.8 | 30 | 69 | Mailed questionnaire | Incidence | Cancer Registry of Norway | Incident cases of histologically-confirmed primary invasive colorectal cancers |
| gallbladder_diseases | Liu | 2009 | Million Women Study | United Kingdom | Prospective cohort | Female | 6.1 | 40 | 65 | Recruitment and repeat self-completed survey questionnaires | Incidence | NHS central registries | Gallbladder disease (ICD-10 K80-K81) |
| ID   | Study ID | Study | Disease | Study Type | Setting | Sample Size | Sample Description | Methodology | Outcome Measure | Population Size |
|------|----------|-------|---------|------------|----------|--------------|-------------------|-------------|----------------|-----------------|
| ihd  | 357429   | Oliveira 2009 | Screening Service | White Portuguese adults in Porto | Portugal | Case-control | Both | 18 99 | Administered questionnaire | Non-fatal hospitalization | Clinical diagnosis | First incidence of acute myocardial infarction with more than four days of survival | 918 | 2316 | Population |
| multiple_sclerosis | 369022 | Jafari 2009 | Families attending outpatient Erasmus clinic or other neurological clinic | the Netherlands | Case-control | Both | 30 81 | Self-administered questionnaire | Incidence | Disease database | Multiple sclerosis | 136 | 204 | Families |
| cvd  | 335914   | Honjo 2009 | Japan Public Health Center-Based Prospective (JPHC) Study; Three-Prefecture Cohort Study; JACC Study | Japanese adults | Japan | Pooled prospective cohort | Both | 9.6 40 79 | Screening survey | Mortality | Vital records | Stroke | 285539 5 | 3131 | 296836 |
| cvd  | 408671   | Sandavei 2009 | HUNT | Residents of Nord-Trøndelag county | Norway | Prospective cohort | Both | 22 28 90 | Self-administered questionnaire | Hospitalization or Mortality | Hospital database, vital records | Subarachnoid hemorrhage | 132 | 74845 |
| cvd  | 437824   | Simons 2009 | Dubbo study | Non-institutionalized residents of Dubbo | Australia | Prospective cohort | Both | 16 59 | Administered risk assessment | Hospitalization or Mortality | Hospital records, vital records, mailed survey | Ischemic heart disease; Ischemic stroke; Cardiovascular diseases | 1273 | 2805 |
| cvd  | 463811   | Chuang 2009 | CVDFACTS | Residents in 5 villages in Chu-Dung and Pu-Tzu, each | Taiwan | Prospective cohort | Both | 10.4 20 99 | Questionnaire-based interview | Incidence or Mortality | Self-reported, vital records, insurance claims | Ischemic stroke | 128 | 6312 | Ischemic stroke |
| Study Ref | CVD/L | Author | Year | Study Design | Population | Outcome Measures | Diagnosis Details | Sample Size | Memo |
|-----------|-------|--------|------|--------------|-------------|------------------|------------------|-------------|------|
| cvd 437516 | Olive | 2009   | Male patients from four hospitals in Porto | Portugal | Case-control | Male | 18 | Interview | Incidence | Medical diagnosis | 638 | 851 | Population |
| cvd 463834 | Urban | 2009   | Patients from 16 centers and the University Medical Centre Utrecht | The Netherlands | Case-control | Female | 23 | Structured questionnaire | Incidence | Medical records, physician diagnosis | 378 | 628 | Population |
| cvd 463856 | Woo   | 2009   | Patients within 50 miles of the University of Cincinnati | United States | Case-control | Both | 26 | Interview | Incidence | Medical records, hospital discharge records | 339 | 1016 | Population |
| cvd 465073 | Agarw | 2009   | General civilian and noninstitutionalized population of the United States | United States | Cross-sectional | Both | 40 | Interview | Prevalence | Biomarker | 647 | 7751 | Peripheral artery disease | 1856 |
| cvd 465271 | Cacou | 2009   | General population at high risk for PAD | France | Cross-sectional | Both | 55 | Self-report | Prevalence | Biomarker | 1579 | 5679 | Peripheral artery disease | 1292 |
| Parkinson | 359158 | Driver | US male physicians without history of cardiovascular disease, cancer (except nonmelanoma skin cancer), or other serious illnesses | United States | Prospective cohort | Male | 21.3 | Mailed questionnaire | Incidence | Self-report, medical records | 467316 | 563 | 21970 | New diagnosis of Parkinson disease |
| Leukemia | 502395 | Björk  | Individuals with acute myeloid leukemia and myelodysplasia | Sweden | Case-control | Both | 20 | Structured interview | Incidence | Local diagnostic laboratories, physician diagnosis, | 179 | 278 | From the general population of Southern Sweden |
| leukaemia | 502397 | Wong | 2009 | Patients in 29 hospitals in Shanghai | Case-control | Both | 18 | 99 | Structured interview | Incidence | Hospital records | Leukemia | 722 | 1444 | Patients from the same hospitals |
| bladder-cancer | 502456 | Kurahashi | 2009 | Japan Public Health Center-based Prospective Study (Cohort I and II) | Registered individuals in five Public Health Center areas | Japan | Prospective cohort | Both | 12.6 | 40 | 69 | Self-administered questionnaire | Incidence or Mortality | Hospital notification and Cancer registry | 1314586 | 206 | 104440 | Bladder cancer |
| bladder-cancer | 502450 | Baris | 2009 | Residents of three states (Maine, Vermont, New Hampshire) | United States | Case-control | Both | 30 | 79 | Structured interview | Incidence | Physician diagnosis, biomarker | Bladder cancer | 1170 | 1413 | Controls were randomly selected from Department of Motor Vehicle records in each state and the beneficiary records of the Centers for Medicare and Medicaid Services |
| bladder-cancer | 502446 | Stern | 2009 | Residents of Los Angeles County and Shanghai | Shanghai, China | Case-control | Both | 25 | 68 | Self-administered questionnaire | Incidence | Physician diagnosis | Bladder cancer | 1042 | 1123 | Residents in neighborhoods of cases in Los Angeles County |
| Study Type | ID  | First Name | Year | Country/Region | Study Design | Sex | Age Range | Data Collection | Validation | Disease/Condition |
|------------|-----|------------|------|----------------|--------------|-----|-----------|----------------|------------|------------------|
| bladder cancer | 502476 | Wallace | 2009 | New Hampshire, United States | Case-control | Both | 25-74 | Personal interview | Incidence | Physician diagnosis |
| lung cancer | 502234 | Hosseini | 2009 | Tehran, Iran | Case-control | Both | 20-99 | administered interview | Incidence | clinical records, confirmed with histology and cytology |
| diabetes | 309610 | Jee | 2010 | Republic of Korea | Prospective cohort | Both | 14-30 | Self-administered questionnaire | Incidence & Mortality | Medical records, vital records |
| peripheral artery disease | 359221 | St-Pierre | 2010 | Quebec | Prospective cohort | Male | 24-64 | Self-reported | Incidence | Medical evaluation |

Residents in the New Hampshire State Department of Health and Human Services’ Cancer Registry.

Residents from population lists obtained from the New Hampshire Department of Transportation and provided by the Centers for Medicare & Medicaid Services of New Hampshire.

Residents from various hospitals diagnosed with lung cancer at participating hospitals.

Korean men and women who participated in a National Health Insurance Corporation.

Residents of seven Quebec suburbs.

Residents of Shanghai and Shanghai.

Patients at various hospitals diagnosed with lung cancer at participating hospitals.

Tuberculosis (ICD-10, E11-E11x and E14-E14x).
| Study | Participants | Year | Study Details | Country/Country Details | Study Design | Data Collection | Disease | Incidence | N Cases | N Controls | Disease Code |
|-------|--------------|------|---------------|-------------------------|--------------|----------------|---------|-----------|---------|------------|---------------|
| **periphera l_artery_disease** | Lakshman an | 2010 | Health in Men Study | Men on the Western Australia electoral roll | Australia | Male | 5.7 | 65 | 83 | Self-reported and medical record review | 638 | 11332 | Peripheral arterial disease |
| **pancreati c_cancer** | Vrieling | 2010 | European Prospective Investigation into Cancer and Nutrition (EPIC) | Residents recruited from 23 centers in 10 European countries | Denmark, France, Germany, Greece, Italy, Norway, Spain, Sweden, United Kingdom | Both | 8.7 | 35 | 70 | Disease registry, health insurance records | 4051920 | 524 | 465910 | Pancreatic cancer (ICD-O-2, C25) |
| **lung_can cer** | Boffetta | 2010 | | | United States | Both | 18 | 99 | Self-reported | Histologic confirmed cases | Lung cancer, bronchiolo alveolar carcinoma | 799 | 16658 | Varied |
| **alzheimer_other_dementia** | Garcia | 2010 | | | Spain | Both | 18 | 99 | Personal interview | Disease registry, personal interviews with proxies | Alzheimer' s General population | 176 | 246 | Varied |
| **parkinson n** | Chen | 2010 | | | United States | Both | 50 | 71 | Self-reported | Self-report, medical records | Parkinson disease | 1662 | 303806 | Portion of cohort who were not cases |
| **laryngeal _cancer** | Lubin | 2010 | | | Multiple | Both | 18 | 99 | Self-reported | Varied | Laryngeal cancer | 1356 | 6910 | Varied |
| Study          | Study ID | Year | Study Design | Country Details                                                                 | Incidence Source | Tumor Type                                                                 | Sample Size | General Populations                                                                 |
|---------------|----------|------|--------------|-----------------------------------------------------------------------------------|------------------|---------------------------------------------------------------------------|-------------|-----------------------------------------------------------------------------------|
| breast cancer | 359082   | 2010 | Case-control  | Population within the catchment area of the Northwestern Ontario Regional Cancer Centre in Canada | Mailed questionnaire | Histologically confirmed primary invasive breast cancer (ICD-9 174)         | 347 775     | Female resident of the NEORC catchment area who has never been diagnosed with breast cancer and aged 25-75 years |
| other pharynx cancer | 364113 | 2010 | Pooled case-control | Cases and controls from 15 case-control studies in Italy, Switzerland, Slovakia, Romania, Hungary, Poland, Russia, United States, Puerto Rico, Argentina, Cuba, Brazil, Spain, Ireland, Canada, Australia, India, Sudan, South Sudan | Subject interview | Pharynx cancer (invasive cancer of the oropharynx, hypopharynx, unspecified pharynx) | 2277 9502 | Hospital patients and general population |
| lip/oral cavity cancer | 364113 | 2010 | Pooled case-control | Cases and controls from 15 case-control studies in Italy, Switzerland, Slovakia, Romania, Hungary, Poland, Russia, United States, Puerto Rico, Argentina, Cuba, Brazil, Spain, Ireland, Canada, Australia, India, Sudan, South Sudan | Subject interview | Oral cavity cancer (invasive tumor of the oral cavity or unspecified oral cavity) | 1872 9502 | Hospital patients and general population |
| Study ID | Year | Country/Region | Description | Cohort Type | Gender Distribution | Data Collection Method | Incidence Methods | Medical Evaluation | Disease Type |
|----------|------|----------------|-------------|--------------|---------------------|-----------------------|-------------------|-------------------|--------------|
| cvd 359221 | 2010 | Spain, Ireland, Canada, Australia, India, South Sudan | Residents of seven Quebec suburbs | Prospective cohort | Male 24 35 64 | Self-reported Incidence | Medical evaluation | 300 4076 | Intermittent claudication |
| cvd 359223 | 2010 | Canada | Men on the Western Australia electoral roll | Prospective cohort | Male 5.7 65 83 | Administered questionnaire Incidence | Self-reported and medical record review | 638 11332 | Peripheral arterial disease |
| cvd 463822 | 2010 | India | Patients from Sree Chitra Tirunal Institute of Medical Science and Technology and Ananthapuri Hospitals and Research Institute at Thiruvananthapuram and Calicut Medical College at Kozhikode | Case-control | Both 27 76 | Structured questionnaire Incidence | Clinical diagnosis | 163 150 | Subarachnoid hemorrhage |
| cvd 463859 | 2010 | Multi-location | Patients recruited from 84 centers in 22 countries | Case-control | Both 28 92 | Structured questionnaire Incidence | Clinical diagnosis | 3000 3000 | Ischemic stroke; Intracerebral hemorrhage; Stroke |
| cvd 115580 | 2010 | Spain | General population of the city of Barcelona and the county of Barcelones | Cross-sectional | Both 47 82 | Self-administered questionnaire Prevalence | Biomarker | 286 3786 | Peripheral artery disease |
| Study | Number | Author | Year | Study Design | Study Details | Incidence | Disease Registry | Disease | Portion of cohort who were not cases |
|-------|--------|--------|------|--------------|---------------|-----------|-----------------|---------|-------------------------------------|
| Parkinson | 359157 | Chen  | 2010 | Case-control | AARP members from six US states and 2 metropolitan areas | United States | Both | 50 71 | Self-administered questionnaire | Incidence | Self-report, medical records | Parkinson disease | 1662 303806 | Portion of cohort who were not cases |
| Bladder Cancer | 502466 | Meliker  | 2010 | Case-control | Residents in Genesee, Huron, Ingham, Jackson, Lapeer, Livingston, Oakland, Sanilac, Shiawassee, Tuscola, and Washtenaw | Michigan, United States | Both | 21 80 | Telephone interview | Incidence | Cancer registry | Bladder cancer | 411 566 | From telephone directories, automobile and motorcycle registries, real estate listings, and driver’s license data |
| Lung Cancer | 502241 | Naghibzadeh-Tahami  | 2010 | Case-control | "incident lung cancer cases from Cheng Ching General Hospital and Tungs’ Taichung MetroHarbor Hospital in central Iran | Iran | Both | 40 80 | Self-administered questionnaire | Incidence | Disease Registry - Cancer | Lung cancer | 242 242 | Hospital Visiter |
| COPD | 356165 | Forey  | 2011 | Meta-analysis | General adult population | Multiple locations | Both | 18 99 | Unknown | Incidence & Mortality | Depends on underlying study |
| COPD | 356342 | Omori  | 2011 | Prospective cohort | Population which would attend a health screening examination at the Japanese Red Cross | Japan | Male | 12 30 76 | Interview | Incidence | Biomarker | 91 913 | COPD |
| Study | Study ID | Author | Year | Setting | Design | Participants | Methods | Follow-up | Incidence | Disease | Notes |
|-------|----------|--------|------|---------|---------|-------------|---------|-----------|-----------|----------|-------|
| IHDC  | 335762   | Zhang  | 2011 | Augsburg Residents of Augsburg and two adjacent counties | Prospective cohort | Germany | Both | 13.3 25 74 | Incidence or Mortality | Disease registry, vital records, medical records | 387 8296 | Myocardial infarction |
| Stroke | 334814 | Kondo | 2011 | Male Japanese workers | Prospective cohort | Japan | Male | 7.5 20 61 | Administered interviews | Mortality | Medical records, vital records | 116053 73 25464 | Stroke |
| Peripheral artery disease | 350659 | Conen | 2011 | Women's Health Study Female healthcare professionals | Prospective cohort | United States | Female | 12.7 45 99 | Baseline questionnaire | Incidence | Self-reported and medical record review | 507329 178 39825 | Symptomatic peripheral artery disease |
| Alzheimer's & other dementia | 328517 | Rusanen | 2011 | Kaiser Permanente Members of the Kaiser Permanente Medical Care Program of Northern California | Prospective cohort | California, United States | Both | 23 50 60 | Personal interview | Incidence | Clinical records, physician diagnosis | 5367 21123 | Dementia |
| Breast cancer | 310352 | Luo | 2011 | Women's Health Initiative General female postmenopausal population | Prospective cohort | United States | Female | 10.3 50 79 | Self-administered questionnaire | Incidence | Self-report, medical records | 3250 79990 | Invasive breast cancer |
| Lung cancer | 358565 | Papadopoulos | 2011 | Female residents in 10 of the 11 French department s | Case-control | France | Female | 18 76 | Administered questionnaire | Incidence | Pathology reports and clinical records | Lung cancer 648 1423 | Population |
| Nasopharyngeal cancer | 346056 | Ji | 2011 | Han Chinese patients recruited from the Zhongnan Hospital of Wuhan University in Wuhan, China | Case-control | Hubei, China | Both | 15 99 | Self-administered questionnaire | Incidence | Histologically confirmed cases | Nasopharyngeal carcinoma 1044 1095 | General population |
| cvd  | 334814 | Kondo  | 2011 | Male Japanese workers | Japan  | Prospective cohort | Male  | 7.5   | 20   | 61 | Administered interviews | Mortality | Medical records, vital records | 116053 | 73   | 25464 | Stroke |
|------|--------|--------|------|-----------------------|--------|-------------------|-------|-------|------|----|------------------------|----------|---------------------------------|--------|------|-------|--------|
| cvd  | 350087 | Chamberlain  | 2011 | The Atherosclerosis Risk in Communities (ARIC) Study | United States | Prospective cohort | Both  | 13.1  | 45   | 64 | Home and telephone interviews | Incidence | ECG results, hospital records, vital records | 201355 | 876  | 15329 | Atrial fibrillation and flutter |
| cvd  | 437404 | Merry  | 2011 | CAREMA | The Netherlands | Prospective cohort | Both  | 11.1  | 20   | 59 | Self-administered questionnaire | Incidence or Mortality | Vital records, hospital records | 209573 | 420  | 19096 | Ischemic heart disease |
| cvd  | 464362 | Ji  | 2011 | Beijing Iron and Steel Complex | China | Prospective cohort | Male  | 20.84 | 18   | 74 | Clinical interview | Incidence or Mortality | Self-reported, hospital records, vital records, clinical reports | 86288  | 391  | 4238  | Cardiovascular diseases |
| cvd  | 463814 | Martin | 2011 | Residents in the UK primary care database | United Kingdom | Nested case-control | Both  | 40    | 84   | Interview | Incidence | Medical records | Ischemic stroke | 2953  | 10000 | Cohort population |
| cvd  | 463816 | Debette | 2011 | Patients from neurology departments in 18 centers across 8 countries | Multi-location | Case-control | Both  | 24    | 68   | Structured questionnaire | Incidence | Disease registry | Ischemic stroke | 556   | 1170  | Population |
| cvd  | 465263 | Lee | 2011 | Male population residing in the Dong-gu district of Gwangju Metropolitan City | South Korea | Cross-sectional | Male  | 51    | 82   | Interview | Prevalence | Biomarker | Peripheral artery disease | 103    | 2517  | 603   |
| cvd  | 465265 | Taylor-Piliae | 2011 | Older members of Kaiser | United States | Cross-sectional | Both  | 60    | 69   | Mailed questionnaire | Prevalence | Biomarker | Peripheral artery disease | 22     | 1017  | 76    |
| Study | Patients | Year | Study Design | Country | Cohort Characteristics | Methods | Incidence Source | Incidence | Study Endpoints |
|-------|----------|------|--------------|---------|------------------------|---------|------------------|-----------|-----------------|
| Permanente of Northern California bladder cancer | 502437 | Zheng | 2011 | Hospital patients from three referral cancer centers | Egypt | Case-control | Both | 19 | 80 | Structured interview | Physician diagnosis | Bladder cancer | 1988 | 2716 | General population |
| breast cancer breast cancer | 310353 | Xue | 2011 | Married female nurses living in eleven states | United States | Prospective cohort | Femal e | 30 | 30 | 55 | Questionnaire | Physician diagnosis | Invasive breast cancer | 8772 | 11140 |
| diabetes diabetes | 255434 | Doi | 2012 | Residents in the town of Hisayama, Japan | Japan | Prospective cohort | Both | 11.8 | 40 | 79 | Self-administered questionnaire | Physician diagnosis | Type 2 diabetes | 286 | 1935 |
| diabetes diabetes | 309584 | Teratini | 2012 | Male workers at a Japanese steel company | Chiba, Japan | Prospective cohort | Male | 4.4 | 18 | 99 | Self-administered questionnaire | Physician diagnosis | Diabetes mellitus | 37311 | 644 | 8423 |
| lung cancer lung cancer | 355970 | Pesch | 2012 | Eight European and one Canadian case-control studies in SYNERGY database | Europe and Canada | Pooled case-control | Both | 18 | 99 | Administered interview | Clinical records | Lung cancer | 13168 | 16008 | Varied |
| lung cancer lung cancer | 358552 | De Matteis | 2012 | Cases and population controls in 216 municipalities in Lombardy | Italy | Case-control | Both | 35 | 79 | Computer-assisted interview | Tissue pathology, cytology, or review of clinical records | Lung cancer | 1943 | 4059 | Population |
| tb tb | 369826 | Alavi | 2012 | Population who would attend the Boo-Ali Hospital in Zahedan | Iran | Case-control | Both | 18 | 99 | Administered questionnaire | Physician diagnosis, biomarker | Pulmonary tuberculosis | 253 | 312 | Subjects who attended Boo-Ali Hospital and underwent a physical examination |
| Study编号 | Author/Source | Year | Setting | Study Design | Cases | Controls | Study Population | Study Methods | Outcome | Follow-up | Cases | Controls | Results |
|-----------|---------------|------|---------|--------------|-------|-----------|-----------------|---------------|---------|-----------|-------|-----------|---------|
| nasopharyngeal cancer | Fachiroh | 2012 | Cases from seven regional cancer centers in Thailand and controls were those who visited the patients | Thailand | Case-control | Both | 18 | 99 | Personal interview | Incidence | Clinically and pathologically confirmed cases | Nasopharyngeal carcinoma (ICD-O, C11) | 681 | 1078 | Resident(s) who visited patients admitted in the health centers |
| peptic ulcer | Al-Zubeer | 2012 | Mosul city | Iraq | Case-control | Both | 18 | 99 | Questionnaire | Incidence | Physician diagnosis | Superficial or deep, single or multiple, duodenal, gastric, or esophageal ulcers | 180 | 240 | Healthy people from the community; medical students and their friends and family; relatives of patients (without peptic ulcer or gastritis) |
| cvd | Bertoia | 2012 | Women's Health Initiative | Participants in 40 study sites | United States | Prospective cohort | Female | 10.8 | Standardized questionnaire | Mortality | Medical records, vital records, autopsy reports, lab reports | 418 | 160291 | Ischemic heart disease |
| cvd | Xu Xu | 2012 | Strong Heart Study | American Indians in three geographic regions | United States | Prospective cohort | Both | 6.3-17.4 | 54 | 74 | Administered questionnaire | Incidence or Mortality | Surveillance, physical examination, medical records | 44184 | 761 | 3563 | Ischemic heart disease |
| cvd | Kim | 2012 | Patients from 33 hospitals throughout the Republic of Korea and their siblings/friends | South Korea | Case-control | Both | 30 | 84 | Administered questionnaire | Incidence | Medical diagnosis | Subarachnoid hemorrhage | 426 | 426 | Population |
| Study Type | ID | Authors | Year | Country | Setting | Study Design | Gender | Age Range | Follow-up | Methodology | Disease | Incidence Rate | Mortality | Cause of Death | Sample Size | Number of Cases | Primary Outcome | Notes |
|------------|----|---------|------|---------|---------|--------------|--------|-----------|-----------|-------------|---------|----------------|---------|----------------|-----------|----------------|----------------|-------|
| Cohort     | 463669 | Ohira  | 2012 | Japan   | Ikawa, Noichi, Kyowa, Yao | Multi-location | Both | 30-84 | Interview | Incidence | Medical records, vital records | Ischemic heart disease | 239 | 717 |  
|            | 463789 | Shiue  | 2012 | Australia | Adelaide, Hobart, Perth, Auckland, New Zealand | Australia | Case-control | Both | 29-83 | Interview | Incidence | Medical records, discharge records, vital records | Subarachnoid hemorrhage | 432 | 473 |  
|            | 464955 | Duval  | 2012 | Multiple countries | Outpatients from 44 countries | Multi-locations | Cross-sectional | Both | 50-90 | Self-report | Prevalence | Self-report, medical records | Peripheral artery disease | 2113 | 23169 | 452  
| Lung Cancer | 426275 | Thun   | 2013 | United States | Participants from 7 US-based cohort studies | United States | Prospective cohort | Both | 30-55 | Interview | Incidence | Administered questionnaire | Disease registry | 572450 | 5905 | 1463295 | Lung cancer  
| Lung Cancer | 328215 | Bae    | 2013 | Korea | Male beneficiaries of Korean Medical Insurance Corporation | Republic of Korea | Prospective cohort | Male | 16-40 | Self-administered questionnaire | Incidence | Disease registries | 203870 | 123 | 14272 | Lung cancer  
| Lung Cancer | 358558 | He     | 2013 | China | Workers at a machinery factor in Xi'an | China | Prospective cohort | Both | 35-33.5 | 69.8 | Administered interviews | Mortality | Hystopathological, clinical, radiological diagnoses | 22076 | 45 | 1494 | Lung cancer  
| Prostate Cancer | 359185 | Rohrmann  | 2013 | Multiple countries | European Prospective Investigation into Cancer and Nutrition (EPIC) | Dependent on location | Prospective cohort | Male | 11.9 | Interview & Questionnaire | Incidence & Mortality | Disease registry, health insurance records, vital records | 4623 | 145112 | Prostate cancer  

| Study Type | Study Name | Period | Study Area | Study Type | Gender | Age | Follow-up | Data Collection Method | Cause of Death | Cause Description | Records |
|------------|------------|--------|------------|------------|--------|-----|-----------|-----------------------|----------------|------------------|---------|
|          | Cancer Prevention Study (CPS) II | All 50 states of the United States, District of Columbia, Puerto Rico, Guam | United States, Puerto Rico, Guam | Prospective cohort | Both | 5.2 | 99 | Mailed questionnaire | Mortality | Death certificates | 395292 0 |
|          | Women's Health Initiative (WHI) | General female population across the United States | United States | Prospective cohort | Femal e | 10 | 55 | Survey | Mortality | Death certificates | 704 150864 |
|          | Million Women Study | Participants of the National Health Service Breast Screening Programme | United Kingdom | Prospective cohort | Femal e | 12 | 50 | Questionnaire | Mortality | Vital records | 4458 1180652 |
|          | Tromso Study | Residents in the municipality of Tromso | Norway | Prospective cohort | Both | 11 | 25 | Self-administered questionnaire | Hospitaliz ation or Mortality | Discharge records, Medical records, Vital records, Autopsy reports | 1222 24968 |
|          | HPFS; Women's Health Initiative | Varied | United States | Pooled prospective cohort | Both | 10 | 55 | Varied | Mortality | Vital records | 3767 190695 |
|          | Elderly residents of Hong Kong | Hong Kong | Hong Kong | Prospective cohort | Both | 10.9 | 65 | Standardized structured interview | Mortality | Vital records, telephone interviews | 648 65510 |
|          | Patients from general practices in England and Wales | United Kingdom | United Kingdom | Prospective cohort | Both | 7 | 25 | Medical records | Incidence | Medical records, vital records | 248000 00 77578 3549478 |

**COPD**

**Coronary heart disease**

**Hemorrhagic stroke**

**Ischemic heart disease**

**Hemorrhagic stroke or transient ischemic**
| stroke | 335266 | Molshatzki | 2013 | Civil servants and municipal employees | Israel | Prospective cohort | Male | 28.1 | 40 | 99 | Administered questionnaire | Vital records, hospital records | 257442 | 665 | 10029 | Stroke (ICD 431-438) |
|---------|--------|-----------|------|----------------------------------------|--------|-------------------|------|------|---|---|-----------------|------------------------|----------|------|------|-----------------|
| stroke | 336216 | Thun | 2013 | CPS I; CPS II; NIH-AARP; ACS | Varied | United States | Pooled prospective cohort | Both | 10-Jun | 18 | 99 | Varied | Vital records | 17463 | 222222 | Any type of stroke |
| Iri | 236197 | Pirie | 2013 | Million Women Study | United Kingdom | Prospective cohort | Female | 12 | 50 | 69 | Administered questionnaire | Vital records | 141678 | 902 | 1180652 | Pneumonia (ICD-10, J12-18) |
| diabetes | 236197 | Pirie | 2013 | Million Women Study | United Kingdom | Prospective cohort | Female | 12 | 50 | 69 | Personal interview | Vital records | 314 | 1180652 | Diabetes (ICD-10, E10-14) |
| aortic aneurism | 236197 | Pirie | 2013 | Million Women Study | United Kingdom | Prospective cohort | Female | 12 | 50 | 69 | Self-administered questionnaire | Vital records | 494 | 1180652 | Aortic aneurysm (ICD-10, I71) |
| Condition       | Study Name                          | Country | Description                                                                 | Methodology                                                                 | Incidence & Mortality | Disease Source                                    | N Cases | N Controls | Disease Code |
|-----------------|-------------------------------------|---------|------------------------------------------------------------------------------|----------------------------------------------------------------------------|------------------------|---------------------------------------------------|---------|------------|--------------|
| aortic aneurism | Sode 2013, Copenhagen City Heart    | Denmark | Randomly selected white individuals of Danish descent                        | Denmark, Prospective cohort, Both 34 20 99, Self-administered questionnaire | Incidence & Mortality  | Registry, vital records                           | 504     | 71283      | ICD-8, 441; ICD-10, 171 |
| breast cancer   | Lemogne 2013, Gaz et Electricité    | France  | Employees of the French national gas and electricity company                 | France, Prospective cohort, Femal e 15.2 35 50, Mailed questionnaire       | Incidence              | Registry at the medical department of the French national gas and electric company | 138     | 3697       |              |
| cervical cancer | Roura 2013, European Prospective    | Denmark | Residents of study areas (France: enrollees in a health insurance scheme of academic employees, the Netherlands and Italy (partial); participants of a breast cancer screening program; Italy (partial) and Spain: blood donors, UK: vegetarians) | Denmark, France, Germany, Italy, the Netherlands, Norway, Spain, Sweden, the United Kingdom, Prospective cohort, Femal e 9 35 70, Medical and lifestyle questionnaires | Incidence              | Health insurance records, disease registry, active follow-up | 277523 5 | 1065       | C53          |
| colon and rectum cancer | Lemogne 2013, Gaz et Electricité (GAZEL) Cohort Study | France | Employees of the French national gas and electricity company                 | France, Prospective cohort, Both 15.2 35 50, Mailed questionnaire       | Incidence              | Registry at the medical department of the French national gas and electric company | 215886  | 125       | C18-19        |
| Study            | Year | Country | Study Description | Design | Country(s) of Participants | Methods of Data Collection | Disease Code | Records | Participants | Follow-up | Follow-up | Study Description |
|------------------|------|---------|-------------------|--------|----------------------------|-----------------------------|--------------|---------|--------------|-----------|-----------|-------------------|
| Japanese Cancer  | 2013 | Japan   | Collaborative Cohort Study (JACC) | Prospective cohort | Residents from 45 areas throughout Japan | Both 19 40 79 | Self-administered questionnaire | Mortality Vital records | 1594210 | 611 98354 | Pancreatic cancer (ICD-10, C25) |
| Multifactorial Ischemic Heart Disease Prevention Study (MIIIDPS) | 2013 | Lithuania | Male residents of the city of Kaunas | Prospective cohort | Male 19.3 40 59 | Personal interview | Incidence Disease registry, vital records | 77 7132 | 77 7132 | Pancreatic cancer (ICD-9, 157 or ICD-10, C25) |
| Swedish Mammography Cohort | 2013 | Sweden | All females born between 1914 and 1948 and residing in two Swedish counties (Uppsala and Vastmanland) | Prospective cohort | Female 7.5 54 89 | Mailed questionnaire | Incidence Medical registers | 254996 | 219 34101 | Rheumatoid arthritis |
| Gaz et Electricité (GAZEL) Cohort Study | 2013 | France | Employees of the French national gas and electric company | Prospective cohort | Male 15.2 40 50 | Mailed questionnaire | Incidence Registry kept in the medical department of the French national gas and electric company, self-report | 412 10506 | 412 10506 | Primary prostate cancer |
| Residents of defined study areas | 2013 | Sweden | Pooled case-control | Both 16 70 | Standardized questionnaire | Incidence Disease registry, hospital records | Multiple sclerosis 7883 9264 | 7883 9264 | 7883 9264 | Population |
| Hospitalized residents admitted to eight different hospitals in one of the four locations in Beijing, Shanghai, Shandong, Hunan, | 2013 | China | Case-control | Male 31 99 | Subject interview | Incidence Primary pathological diagnosis | Oral squamous cell carcinoma 319 428 | 319 428 | 319 428 | Hospital patients from oral and maxillofacial surgery department, head and neck surgery department |
| cvd | Study ID | Authors | Year | Study Population | Design | Country | Age | Gender | Follow-up | Cause of Death | Ref. | Study Type | Cause of Death |
|-----|----------|---------|------|------------------|--------|---------|-----|--------|-----------|---------------|------|------------|----------------|
| cvd | 236197   | Pirie   | 2013 | Million Women Study | Participants of the National Health Service Breast Screening Programme | United Kingdom | Prospective cohort | Female | 12 | 50 | Self-administered questionnaire | Mortality | Vital records | Coronary heart disease (I21-25), Aortic aneurysm (ICD-10, I71) |
| cvd | 336216   | Thun    | 2013 | HPFS; Women's Health Initiative | Varied | United States | Pooled prospective cohort | Both | 10 | 55 | Varied | Mortality | Vital records | Ischemic heart disease |
| cvd | 336216   | Thun    | 2013 | CPS I; CPS II; NIH-AARP; ACS CPS II Nutrition Cohort; Women's Health Initiative; Nurses' Health Study; Health Professionals Follow-up Study | Varied | United States | Pooled prospective cohort | Both | 10-Jun | 18 | Varied | Mortality | Vital records | Any type of stroke |
| cvd | 350757   | Xu      | 2013 | Elderly residents of Hong Kong | Hong Kong | Prospective cohort | Both | 10.9 | 65 | Standardized structured interview | Mortality | Vital records, telephone interviews | Hemorrhagic stroke |
| cvd | 334964   | Gellert | 2013 | Residents of Saarland | Germany | Prospective cohort | Both | 9.1 | 50 | Self-administered questionnaire | Incidence or Mortality | Self-reported, clinical review, vital records | Ischemic heart disease; Stroke; Cardiovascular diseases |
| cvd | 463346   | Gram    | 2013 | Norwegian middle-aged women | Norway | Prospective cohort | Female | 14 | 26 | Baseline questionnaire | Mortality | Vital records | Cardiovascular diseases; Ischemic heart disease |
| Study ID | Year | Authors | Population Description | Country | Study Design | Gender | Age Mean | Age Range | Data Collection Methods | Follow-up | Study Endpoints |
|---------|------|---------|-------------------------|---------|--------------|--------|----------|-----------|-------------------------|-----------|-----------------|
| cvd 463679 | 2013 | Karppi | Kuopio Ischemic Heart Disease Risk Factor (KIHID) cohort | Finland | Prospective cohort | Male | 15-9 | 42-60 | Self-administered questionnaire | Mortality | Hospital records, vital records, clinical data | 19393 | 59 | 1031 | Ischemic heart disease |
| cvd 330725 | 2013 | Zhang | Residents in Baotou, Inner Mongolia of China | China | Case-control | Both | 28 | 87 | Interview | Incidence | Medical records | 226 | 434 | Population |
| cvd 463620 | 2013 | Vlak | Patients admitted at the Utrecht Stroke Centre of the University of Medical Center Utrecht | The Netherlands | Case-control | Both | 24 | 86 | Structured questionnaire | Incidence | Clinical diagnosis | 250 | 574 | Hospital |
| breast_cancer 310343 | 2013 | Bjerkas | Norwegian women born between 1889 and 1975, recruited into three large Norwegian prospective cohort studies | Norway | Prospective cohort | Female | 14 | 28 | Self-administered questionnaire | Incidence | Disease registry | 416431 | 7490 | 302865 | Breast cancer (ICD-7: 170) |
| lung_cancer 328909 | 2014 | Everatt | Kunas-Rotterdam Intervention Study (KRIS) and Multifactorial Ischemic Heart Disease Prevention | Lithuania | Prospective cohort | Male | 30 | 40 | Administered interview | Incidence | Disease registry and vital records | 133642 | 1780 | 6976 | Lung cancer (ICD C33-34, 162) |
| Study (MIHDPS) | Code | Name | Year | Location | Population | Methodology | Outcome | Control | Sample Size | N_Events | N_Population | Notes |
|----------------|------|------|------|----------|------------|-------------|---------|---------|-------------|-----------|-------------|-------|
| Tehran Lipid and Glucose Study | 343312 | Ehteshami-Afshar | 2014 | Iran | Prospective cohort Residents of District 13 in Tehran | Male | 93 | 30 | 99 | Administered questionnaire Incidence or Mortality Interview, medical records | 257 | 3059 | Definite and probable myocardial infarction |
| European Prospective Investigation into Cancer and Nutrition (EPIC) | 310321 | Dossus | 2014 | General population Denmark, France, Germany, Greece, Italy, Netherlands, Norway, Spain, Sweden, United Kingdom | Prospective cohort | Femal e | 11 | 18 | 99 | Questionnaire Incidence Population cancer registries, self-report, proxy informants, health insurance records, pathology registries | 9822 | 322988 | Breast cancer |
| Cohort of Swedish Men | 359118 | Lindblad | 2014 | Sweden | Prospective cohort | Male | 12 | 45 | 79 | Self-administered questionnaire Incidence Disease registry, vital records | 5713 | 44371 | Age-related cataract extraction (ICD-10, H25) |
| Japan Public Health Center-based study (JPHC) | 359215 | Sawada | 2014 | Japan | Prospective cohort | Male | 16 | 40 | 69 | Self-administered questionnaire Incidence Hospital records, population-based cancer registries, death certificates | 769175 | 913 | 48218 | Prostate cancer |
| Residents from 8 out of 10 EPIC countries (26 centers) | 356105 | Consortiu m | 2014 | Case-cohort Denmark, France, Germany, Italy, Netherlands, Spain, Sweden, United Kingdom | Both | 18 | 99 | Self-administered questionnaire Incidence Self-report, medical records, hospital admission data, vital records | 10327 | 13863 | General population Type 2 diabetes |
| Population who | 359154 | Van der Mark | 2014 | Netherlands | Case-control | Both | 34 | 91 | Telephone interview Incidence Hospital records Parkinson disease | 444 | 876 | Selected from |
attended departments of neurology at five hospitals in four areas of the Netherlands among those who attended the same hospital department of neurology as the cases.

| Study | No. | Country | Year | Design | Exclusion Criteria | Sample Size | Disease Type | Follow-up | Data Collection | Cancer Surveillance System Tumor Registry | Data Source |
|-------|-----|---------|------|--------|-------------------|-------------|--------------|-----------|----------------|---------------------------------|-------------|
| breast_cancer | 359086 | United States | 2014 | Case-control | General female population who were residents of King, Pierce, and Snohomish counties | 960 | Invasive breast cancer | 939 | United States Cancer Surveillance System Tumor Registry | United States | General female population who were residents of King, Pierce, and Snohomish counties |
| colon_ and_rectum_cancer | 358658 | United States | 2014 | Nested case-control | Adults aged 55-74 enrolled at ten different centers in the United States without prior cancer (except skin cancer), except those who developed a rare cancer during follow-up or self-reported Crohn's disease, ulcerative colitis, familial polyposis, Gardner's syndrome or colorectal polyps | Both | Primary incident colorectal cancers (ICD-O-3 C180-189, C199, C209, C260) | Both | Medical and pathologic reports | Both | Randomly sampled from the cohort who were free from any cancer at the time matched to a case |
| Type      | Study ID | Authors          | Year | Location                          | Study Design   | Gender | Age (Mean ± SD) | Incidence Method                   | Incidence/Mortality | Controls | Region of Residence  |
|-----------|----------|------------------|------|-----------------------------------|----------------|--------|-----------------|-------------------------------------|---------------------|----------|----------------------|
| cvd       | 343312   | Ehteshami -Afshar | 2014 | Tehran Lipid and Glucose Study    | Prospective cohort | Male   | 9.3 ± 30        | Administered questionnaire          | Incidence/Mortality | 257      | Iran                 |
| cvd       | 464867   | Svensjo          | 2014 | Residents of District 13 in Tehran | Prospective cohort | Male   | 65 ± 70         | Screening                           | Disease registry    | 87       | Iran                 |
| parkinson | 359154   | Van der Mark     | 2014 | males born in 1941 or 1942 in Uppsala county | Case-control    | Both   | 34 ± 91         | Telephone interview                  | Disease registry    | 444      | Sweden               |
| fractures | 498378   | Bawab            | 2014 | adults who attended departments of neurology at five hospitals in four areas of the Netherlands | Case-control    | Both   | 40 ± 99         | Administered questionnaire          | Disease registry    | 158      | Lebanon             |
| fractures | 498383   | Sommar           | 2014 | Fracture cases identified from a 12-year prospective injury-fracture in Västerbotten County, Sweden | Nested case-control | Female| 50 ± 69         | Administered questionnaire          | Injury-fracture database | 158      | Sweden               |
| Study                          | ID    | Authors          | Year | Design          | Country                  | Outcome          | Sex        | Age at Recruitment | Date of Blood Sampling | Other Details                                                                 |
|-------------------------------|-------|------------------|------|-----------------|--------------------------|------------------|------------|-------------------|------------------------|-----------------------------------------------------------------------------|
| Lung Cancer                   | 321342| Freedman         | 2015 | NIH-AARP members| United States            | Prospective cohort| Both       | 11                | 50                     | Self-administered questionnaire, Disease registry                           |
| Lung Cancer                   | 413177| Yun              | 2015 | Government employees and teachers in Korea | Republic of Korea | Prospective cohort| Both       | 12                | 20                     | Self-administered questionnaire, Disease registry                           |
| IHD                           | 356114| Schnohr          | 2015 | Copenhagen City Heart Study | Denmark | Prospective cohort| Both       | 21.5              | 20                     | Self-administered questionnaire, Hospitalization or Mortality, Vital records, patient registry |
| IHD                           | 357254| Hippisley-Cox    | 2015 | QResearch       | United Kingdom          | Prospective cohort| Both       | 10                | 25                     | Electronic medical record, Incidence, Medical records, vital records        |
| Diabetes                      | 356095| Akter            | 2015 | Japanese Epidemiology Collaborating on Occupational Health Study | Japan | Prospective cohort| Both       | 5                 | 15                     | Self-administered questionnaire, Physician diagnosis                       |
| Diabetes                      | 356097| Hilawe           | 2015 | Aichi Workers' Cohort Study II | Japan | Prospective cohort| Both       | 9                 | 35                     | Self-administered questionnaire, Self-report, medical records              |
| Alzheimer's dementia          | 328492| Ohara            | 2015 | Hisayama Study  | Japan | Prospective cohort| Both       | 17                | 65                     | Self-administered questionnaire, Clinical records, autopsy records         |
| Prostate Cancer               | 328210| Meyer            | 2015 | National Research Program 1A, Socio-Medical Indicators | Switzerland | Pooled prospective cohort | Male     | 18.9               | 14                     | Unspecified, Clinical records, Vital records                              |

Matched for sex, age at recruitment, and date of blood sampling.
| TB               | Patient ID | Author | Year | Study Type | Study Group | Country | Gender | Age (min, max) | Method of Case ascertainment | Disease Registry | Disease Incidence | Notes                                                                 |
|------------------|------------|--------|------|------------|-------------|---------|--------|---------------|--------------------------------|----------------|-----------------|-----------------------------------------------------------------------|
| prostate cancer  | 359183     | Parker | 2015 | Multiethnic Cohort Study | Residents of Hawaii and California | United States | Male   | 13.9, 45, 75  | Self-administered questionnaire | Incidence registry | 7115            | 75216 Prostate cancer                                              |
| nasopharyngeal cancer | 328921   | Lin    | 2015 | Guangzhou Occupation Cohort | Chinese factory workers and drivers in Guangzhou, China | Guangdong, China | Both   | 7.3, 30, 87   | Employee records | Mortality Medical records, vital records | 746159 | 34 | 101823 Nasopharyngeal carcinoma (ICD-9)                              |
| TB               | 359228     | Marahatta | 2015 | Population with tuberculosis in the central development region | Nepal | Case-control | Both   | 10, 99 | Administered questionnaire | Incidence Physician diagnosis, biomarker | Multidrug resistant tuberculosis | 186 | 372 New smear positive pulmonary tuberculosis cases as per Nepal national tuberculosis protocol |
| TB               | 359273     | Smith  | 2015 | Population who have health insurance through a health maintenance organization, like the Kaiser Permanente | United States | Nested case-control | Both   | 21, 98 | Medical records | Medical records Pulmonary tuberculosis disease | 591 | 1098 Kaiser Permanente Northern California members who were free of
| Study ID | Authors | Year | Study Name | Country | Population | Cohort Type | Follow-up | Data Sources | Endpoints | N Cases | N Controls | Disease Codes |
|----------|---------|------|------------|---------|------------|-------------|-----------|-------------|-----------|----------|------------|----------------|
| 353080   | Fisher  | 2015 | Northern California membership | General population of four study sites: Murcia, Spain; Naples, Turin, Ragusa in Italy | Spain, Italy | Nested case-control | Both       | Questionnaire | Incidence | Primary health care records, prescription records, hospital discharge records, telephone follow-up of participants, then validated by medical record review | Rheumatoid arthritis | 18 | 99 | 103 309 |
| 356114   | Schnohr | 2015 | Copenhagen City Heart Study | White residents of Copenhagen | Denmark | Prospective cohort | Both       | Self-administered questionnaire | Hospitalization or Mortality | Vital records, patient registry | Coronary heart disease (ICD 410-414, I20-I25) | 21.5 | 20 | 1731 8882 |
| 350755   | Pujades-Rodriguez | 2015 | CALIBER | Patients from general practices in England | Great Britain | Prospective cohort | Both       | Self-reported in medical review | Incidence or Mortality | Disease registry, vital records, medical records | Ischemic heart disease; Ischemic stroke; Subarachnoid hemorrhage; Intracerebral hemorrhage; Peripheral vascular disease; Aortic aneurysm | 5.5 | 40 | 116000 114859 193736 |
| 465190   | Farzan  | 2015 | New Hampshire Skin Cancer Study | Participants of the case-control study on keratinocyte cancers | United States | Prospective cohort | Both       | Personal interview | Mortality | Vital records | Cardiovascular diseases | 14 | 25 | 55034 312 3939 |
| Study | ID    | Author | Year | Country/Region | Study Design | Gender | Age | Cancer | Study Population | Follow-up | Methodologies | Validation Criteria | Cause of Death or Disease |
|-------|-------|--------|------|----------------|--------------|--------|-----|--------|------------------|-----------|----------------|---------------------|---------------------------|
| lung cancer | 502407 | Schwartz | 2015 | Hong Kong, Brazil | Case-control | Both | 33 | 90 | Newly diagnosed lung cancer patients | 1208 | 1069 | Both | Administered interview | Histologic confirmed cases | lung cancer (ICD C33-C34) |
| ihd | 356141 | Lubin | 2016 | United States | Prospective cohort | Both | 21 | 45 | Atherosclerosis Risk in Communities (ARIC) | 232002 | 14127 | Both | Administered questionnaire, telephone interview | Hospital records, vital records, autopsy records, telephone interviews | Validated, definite, or probable myocardial infarction or coronary heart disease death |
| stroke | 350753 | Lindbohm | 2016 | Finland | Prospective cohort | Both | 14.8 | 18 | Atherosclerosis Risk in Communities (ARIC) | 138000 | 65521 | Both | Self-administered questionnaire, telephone interview | Vital records, hospital discharge records, autopsy | Subarachnoid hemorrhage |
| cataracts | 359116 | Floud | 2016 | United Kingdom (England, Scotland) | Prospective cohort | Female | 10.7 | 50 | FINRISK study cohort | 89343 | 1312051 | Female | Self-administered questionnaire | Disease registry | Cataract surgery |
| prostate cancer | 356281 | Taghizadeh | 2016 | White individuals of Dutch descent | Prospective cohort | Male | 43 | 65 | Million Women Study | 83 | 8465 | Both | Self-administered questionnaire | Vital records | Prostate cancer |
| peptic ulcer | 359166 | Deding | 2016 | Danish citizens who resided in eleven municipalities covering the entire of northern Jutland | Prospective cohort | Both | 2.75 | 99 | Vlagtwende-Vlaardegem study | 121 | 17525 | Both | Self-administered questionnaire | National Patient Registry | Duodenal or gastric peptic ulcer (ICD-10 K25-K27.9) |
| fractures | 414201 | Thorin | 2016 | Female residents of Malmo | Prospective cohort | Female | 10 | 75 | Osteoporosis Risk Assessment study | 420 | 1033 | Female | Self-assessment questionnaire | Medical records | Fracture |
| diabetes | 356099 | Hou | 2016 | Chinese residents | Case-control | Male | 20 | 98 | Case-control study | 1246 | 15040 | Case-control | Self-administered questionnaire | Physician diagnosis | Diabetes mellitus | General population |
| diabetes | 356101 | Rasouli 2016 | Residents of Scania county in Sweden | Sweden | Case-control | Both | 18 | 99 | Self-administered questionnaire | Incidence | Physician diagnosis | Type 2 diabetes | 1188 | 1472 | General population |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| cvd | 322259 | Alzamora 2016 | ARTPER Residents of 24 Primary Health Centers of the metropolitan Barcelona area and Barcelones Nord-Maresme | Spain | Prospective cohort | Both | 2.9 | 59 | 89 | Telephone and clinical history reviews | Incidence | ABI measurements | Peripheral vascular disease | 95 | 2256 | |
| cvd | 457129 | Velescu 2016 | REGICOR Residents in Girona and three neighboring rural villages | Spain | Prospective cohort | Both | 5.7 | 35 | 79 | Administered MONICA questionnaire | Incidence or Mortality | Biomarker (ABI), clinical evaluation, medical records, vital records | Peripheral vascular disease | 118 | 5434 | |
| cvd | 464806 | Piotrowski 2016 | WOBASZ; WOBASZ Senior Polish residents | Poland | Pooled prospective cohort | Both | 5.8 | 20 | | | Mortality | Vital records | Cardiovascular diseases | 568 | 15865 | |
| cvd | 46417 | Lachman 2016 | EPIC-Norfolk Registries of general practices in Norfolk | United Kingdom | Prospective cohort | Both | 15 | 39 | 79 | Questionnaire | Hospitalization or Mortality | Hospital database; vital records | Cardiovascular diseases | 103961 | 1225 | 10043 |
| cvd | 465192 | Cooney 2016 | SCORE General population | Italy, Belgium, Denmark, Norway | Pooled prospective cohort | Both | 6.0 to 10.1 | 65 | 101 | Varied | Mortality | Varied | Ischemic heart disease; Cardiovascular diseases | 210000 | 4144 | 205000 |
| cvd | 463531 | Martinez 2016 | Patients from Santa Ana Hospital, Granada, Spain | Spain | Case-control | Both | 47 | 94 | | | Interview | Medical diagnosis | Ischemic heart disease; Stroke | 134 | 67 | Hospital |
| breast cancer | 448179 | Gram 2016 | Norwegian Women and Cancer Study random sample of Norwegian women | Norway | Prospective cohort | Femal e | 13.4 | 34 | 70 | | Incidence | Disease registry | Breast cancer (ICD-7: 170) |
| fractures | 414192 | Cauley 2016 | The Osteoporotic Fractures Men aged over 65 between United States | United States | Prospective cohort | Male | 8.6 | 65 | 99 | Self-report, interview, or examination | Incidence | Self-report | Hip fracture | 50,534 | 178 | 5876 |
| Fractures | Wiklund 2016 | Fractures | Participants from the Umea 85+ Gerontological Regional Database population-based cohort were interviewed and assessed in Västerbotten County, Sweden. | Prospective cohort | Both | 2.7 | 85 | 99 | Interview | Medical records and hospital discharge registries | 2573 | 96 | 953 | Hip fracture |
| Lung cancer | Hansen 2017 | Lung cancer | Norwegians recruited from Norwegian Counties Study, 40 Years Study, and Cohort of Norway (CONOR) Study | Norway | Prospective cohort | Both | 39 | 20 | 103 | Administered questionnaire | Disease registry | 115536 | 11 | 6534 | 585583 | Carcinoma of the trachea, broncus, and lung (ICD-7 162) |
| IHD | Lv 2017 | IHD | China Kadoorie Biobank Study | China | Prospective cohort | Both | 7.2 | 30 | 79 | Baseline questionnaire | Incidence or Mortality | Disease registry, vital records, insurance records, active follow-up | 330000 | 0 | 21857 | 461211 | Ischemic heart disease (ICD-10 I20-I25) |
| IHD | Lubin 2017 | IHD | US Agricultural Health Study Cohort; Finnish ATBC Study | Finland, United States | Pooled prospective cohort | Both | 25 | 50 | 69 | Administered questionnaire, enrollment questionnaire | Incidence or Mortality | Questionnaire, vital records, disease registry | 154456 | 2 | 10083 | 118789 | Coronary heart disease (ICD-10 I20-I25) |
| Diabetes | Lv 2017 | Diabetes | China Kadoorie Biobank cohort | China | Prospective cohort | Both | 9 | 30 | 79 | Self-administered questionnaire | Incidence | Disease registry, vital records | 8784 | 461211 | Type 2 diabetes mellitus (ICD-10, |
| Study Area | Study Name | Region | Country | Sample Size | Design | Follow-up | Data Collection | Outcomes | Methodology | Notes |
|------------|------------|--------|---------|-------------|--------|-----------|-----------------|----------|-------------|-------|
| study areas across China | Hordaland Health Study | Residents of Bergen or neighboring suburban areas | Norway | 324155 | Prospective cohort | Both | 11 46 74 | Administered questionnaire | Hospitalization or mortality | Disease registries | 538 6682 | Atrial fibrillation |
| study areas across China | The Suita Study | Residents of Suita City | Japan | 324168 | Prospective cohort | Both | 14 30 79 | Administered questionnaire | Incidence | Biannual health examination, self-reported, medical record review | 95180 311 6898 | Atrial fibrillation or atrial flutter |
|  | The Japan Public Health Center-based Prospective Study | Residents of 10 prefectural public health center areas | Japan | 343390 | Prospective cohort | Both | 18.3 40 69 | Self-administered questionnaire | Incidence | Disease registry, vital records, medical records | 1782762 47 96992 | Leukemia |
| breast cancer | Generations Study | General female population of Great Britain | United Kingdom | 359074 | Prospective cohort | Femal e | 7.7 16 102 | Questionnaire | Incidence | Self-report, cancer registries | 788361 1815 120927 | Invasive breast cancer |
| breast cancer | Netherlands Cohort Study (NLCS) | General postmenopausal population | Netherlands | 359076 | Case-cohort | Femal e | 20.3 55 69 | Self-administered questionnaire | Incidence | Netherlands Cancer Registry and Dutch Pathology Registry | 2526 4342 | Postmenopausal breast cancer |
| breast cancer | National Institute of Environmental Health Sciences (NIEHS) Sister Study | Females without history of breast cancer who have a sister with diagnosed breast cancer | United States, Puerto Rico | 359078 | Prospective cohort | Femal e | 6.4 35 74 | Telephone questionnaire | Incidence | Self-report | 326242 1843 50733 | Breast cancer |
| copd | COPD cases and healthy volunteers who underwent routine health | China | Case-control | 356275 | Interview | Both | 18 99 | Interview | Incidence | Physician diagnosis, biomarker | 120 481 | Healthy volunteers who underwent a routine checkup |
| Study                      | Sample Size | Study Design | Country                  | Case-Control | Setting | Method of Confirmation | Primary Diagnosis | N Cases | N Controls |
|----------------------------|-------------|--------------|--------------------------|---------------|---------|------------------------|------------------|---------|------------|
| breast cancer              | 359094      | Female       | United States            | Nested case-control | Kaiser Permanente Northwest Region | Medical records | KPNW Tumor Registry | 526     | 526        |
| Chang 2017                 | 373803      | Male         | China (Guangdong)        | Case-control   | Zhaoqing area of Guangdong Province and the Wuzhou and Guiping/Pingshan areas of Guangxi Autonomous Region | Personal interview, administered questionnaire | Histologically confirmed cases | 2530    | 2595       |
| cvd 2017                   | 463489      | Both         | Germany                  | Case-control   | 26 German centers | Interview | Incidence | Clinical diagnosis | Stroke; Ischemic stroke | 2125    | 8500       |
| cvd 2017                   | 463527      | Both         | India                    | Case-control   | All India Institute of Medical | Incidence | Clinical diagnosis | Ischemic stroke | 250     | 250        |
| Study Type | Reference | Year | Study Design | Study Population | Country | Age (Mean) | N | Incidence | Case-Control | Analysis Method | Disease | Cause of Death | N | Population | Study Type | Study Population | Country | Age (Mean) | N | Incidence | Case-Control | Analysis Method | Disease | Cause of Death | N | Population |
|------------|-----------|------|--------------|------------------|---------|------------|---|-----------|--------------|----------------|---------|-------------|---|-----------|------------|------------------|---------|------------|---|-----------|--------------|----------------|---------|-------------|---|-----------|
| cvd | Lioutas 2017 | 2017 | Residents recruited from Framingham, Massachusetts | United States | Nested case-control | Both | 50 | 100 | Incidence | Clinical diagnosis | Intracerebral hemorrhage | 106 | 318 | Cohort population | Sciences, New Delhi | cvd | 463529 | Lioutas 2017 | 2017 | Residents recruited from Framingham, Massachusetts | United States | Nested case-control | Both | 50 | 100 | Incidence | Clinical diagnosis | Intracerebral hemorrhage | 106 | 318 | Cohort population | Sciences, New Delhi |
| breast cancer | Ellingjord-Dale 2017 | 2017 | Norwegian women aged 50-69 who attended a mammographic screening | Norway | Nested case-control | Femal e | 50 | 69 | Breast cancer | Disease registry | Invasive breast cancer (ICD10: C50) | 4402 | 24760 | Community | breast cancer | 502439 | Ellingjord-Dale 2017 | 2017 | Residents recruited from Framingham, Massachusetts | United States | Nested case-control | Both | 50 | 100 | Incidence | Clinical diagnosis | Intracerebral hemorrhage | 106 | 318 | Cohort population | Sciences, New Delhi |
| lung cancer | Lawania 2017 | 2017 | newly diagnosed lung cancer patients from 15 hospitals around Germany | Chandigarh, India | case-control | Both | 26 | 90 | self-administered questionnaire | Incidence | Hospital records | lung cancer (ICD C33-C34) | 811 | 912 | Population | lung cancer | 502482 | Lawania 2017 | 2017 | Residents recruited from Framingham, Massachusetts | United States | Nested case-control | Both | 50 | 100 | Incidence | Clinical diagnosis | Intracerebral hemorrhage | 106 | 318 | Cohort population | Sciences, New Delhi |
| lung cancer | Tindle 2018 | 2018 | Adult residents of Framingham, Massachusetts | United States | Prospective cohort | Both | 28.7 | 18 | Incidence | Incidence | Disease surveillance through medical record review, pathology reports, and laboratory reports | Lung cancer | 358597 | Tindle 2018 | 2018 | Residents recruited from Framingham, Massachusetts | United States | Nested case-control | Both | 50 | 100 | Incidence | Clinical diagnosis | Intracerebral hemorrhage | 106 | 318 | Cohort population | Sciences, New Delhi |
| copd | Leem 2018 | 2018 | Adult Koreans covering the urban and rural populations (population-based sample from Ansan and Ansung) | South Korea | Prospective cohort | Both | 3.5 | 40 | Incidence | Incidence | Biomarker | COPD | 356273 | Leem 2018 | 2018 | Residents recruited from Framingham, Massachusetts | United States | Nested case-control | Both | 50 | 100 | Incidence | Clinical diagnosis | Intracerebral hemorrhage | 106 | 318 | Cohort population | Sciences, New Delhi |
| stroke | Jamrozik 2018 | 2018 | Adults in specific birth cohorts | Australia | Pooled prospective cohort | Both | 65 | 84 | Postal or face-to-face interview | Mortality | Vital records | Stroke (ICD I60-I69, G45-G46) | 336319 | Jamrozik 2018 | 2018 | Residents recruited from Framingham, Massachusetts | United States | Nested case-control | Both | 50 | 100 | Incidence | Clinical diagnosis | Intracerebral hemorrhage | 106 | 318 | Cohort population | Sciences, New Delhi |
| Study ID | Author | Year | Study | Country | Population | Type | Gender | Age (range) | Follow-up Years | Data Collection | Cancer Registry | Incidence | Additional Information |
|---------|-------|------|-------|---------|------------|------|--------|------------|----------------|----------------|---------------|------------|-------------------------|
| 359128  | Lu    | 2018 | Japan Public Health Center (JPHC) Study | Japan | General population of 11 prefectures across Japan | Baseline survey questionnaire | Incidence | Cancer registry | 154481 9 | 59 | 95525 | Oropharyngeal cancer (ICD-O-3 C09-C10), hypopharyngeal cancer (ICD-O-3 C12-C13) |
| 359128  | Lu    | 2018 | Japan Public Health Center (JPHC) Study | Japan | General population of 11 prefectures across Japan | Baseline survey questionnaire | Incidence | Cancer registry | 154481 9 | 74 | 95525 | Oral cavity cancer (ICD-O-3 C01-C06) |
| 358466  | Markidan | 2018 | Adult males | United States | Case-control | Male | 15-49 | Standardized interviews | Incidence | First ischemic stroke | 615 | 530 |
| 413800  | Radzeviciené | 2018 | Cases and controls from an outpatient clinic in Kaunas, Lithuania | Lithuania | Case-control | Female | 18-99 | Administered questionnaire | Incidence | Physician diagnosis | Type 2 diabetes mellitus | 168 | 336 |
| 336319  | Jamrozik | 2018 | Adults in specific birth cohorts | Australia | Pooled prospective cohort | Both | 65-84 | Postal or face-to-face interview | Mortality | Vital records | Stroke (ICD I60-I69, G45-G46) | 502 | 23861 |
| 364043  | Imtiaz Ahmad | 2018 | Residents of continental US, particularly Black residents and those in the so-called 'stroke belt' | United States | Prospective cohort | Both | 10.6 | Computer-assisted telephone interview | Incidence | Study electrocardiogram, self-reported | Atrial fibrillation and flutter | 954 | 11047 |
| 412189  | Millett | 2018 | Residents assessed in 22 health centers | United Kingdom | Prospective cohort | Both | 7-40 | Face-to-face interview | Incidence or Mortality | Hospital admission data | Ischemic heart disease | 5081 | 471998 |
| 413802  | Tan    | 2018 | Men in 49 randomly | China | Prospective cohort | Male | 15-40 | Administered questionnaire | Mortality | Vital records, | Cardiovascular | 18833 | 213221 |
| Study ID | Year | Country | Study Title | Design | Participants | Follow-up | Data Sources | Incidence/Mortality | Additional Disease Information |
|---------|------|---------|-------------|--------|--------------|-----------|--------------|----------------------|-------------------------------|
| cvd 463016 | 2018 | Japan | The Hisayama Study | Prospective cohort | Residents of Hisayama | Both | 24 | 40 | 84 | Standardized questionnaire | Incidence or Mortality | Regular monitoring, autopsy reports, clinical history, clinical data | 1029 | 2462 | Cardiovascular diseases; Ischemic heart disease; Stroke |
| cvd 463196 | 2018 | Sweden | Women’s Health in the Lund Area Study | Prospective cohort | Women in Southern Sweden | Female | 17 | 50 | 64 | Questionnaire | Hospitalization | Hospital discharge records | 205 | 671 | Ischemic heart disease |
| cvd 463202 | 2018 | South Korea | National Health Insurance Service National Health Screening Cohort | Prospective cohort | Citizens that underwent mandatory health checkups under the national insurance scheme | Male | 7 | 40 | | Self-reported questionnaire | Hospitalization | Hospital admissions records | 836962 | 5333 | 108242 | Ischemic heart disease; Stroke; Ischemic stroke; Intracerebral hemorrhage |
| cvd 463336 | 2018 | United Kingdom | Whitehall II | Prospective cohort | Civil servants in 20 London-based departments | Both | 11 | 35 | 55 | Baseline survey | Incidence | Disease registry, vital records, clinical data, hospital records | 107907 | 799 | 8335 | Ischemic heart disease |
| cvd 463461 | 2018 | Italy | MONICA-Brianza; PAMELA; SEMM | Pooled prospective cohort | Civil servants, residents of the Brianza area | Male | 15 | 25 | 64 | Self-reported questionnaires | Incidence or Mortality | Hospital discharge, clinical data | 162 | 2532 | Cardiovascular diseases |
| cvd 464001 | 2018 | United States | Patients with rheumatoid arthritis | Prospective cohort | Multi-location | Both | 5.8 | | | Baseline questionnaire | Incidence or Mortality | Medical record review, study visits | 389 | 5638 | Cardiovascular diseases |
| cvd 358466 | 2018 | United States | Adult males | Case-control | | Male | 15 | 49 | | Standardized interviews | Incidence | | | First ischemic stroke | 615 | 530 | Population |


| Study ID | Year | Authors | Location | Design | Gender | Age | Questionnaire Administered | Incidence | Discharge Records | Disease, Mortality | Population |
|----------|------|---------|----------|--------|--------|-----|----------------|-----------|------------------|-----------------|------------|
| cvd 462833 | 2018 | Kivioja | Helsinki University Hospital, Finland | Case-control | Both | 25-49 | Administered questionnaire | Incidence | Discharge records | Ischemic stroke | 961, 1403 |
| cvd 463194 | 2018 | Ivert | Stockholm, Sweden | Nested case-control | Both | 18-49 | Cohort registers | Incidence | Disease registry, vital records | Cardiovascular diseases | 2925, 14660 |
| cvd 463298 | 2018 | Lu | Shandong Province and Binzhou Medical University, China | Case-control | Both | 36-88 | Incidence | Clinical diagnosis | Ischemic stroke | 152, 168 |
| cvd 463473 | 2018 | Nordin | Shandong Province and Binzhou Medical University, China | Case-control | Both | 18-75 | Structured questionnaires | Incidence | Medical records | Ischemic heart disease | 785, 792 |
| cvd 463479 | 2018 | Zyriax | Shandong Province and Binzhou Medical University, China | Case-control | Female | 30-80 | Self-administered questionnaire | Incidence | Clinical diagnosis | Ischemic heart disease | 200, 225 |
| diabetes 502177 | 2018 | White | Jackson, Mississippi | Prospective cohort | Both | 8-21-84 | Self-administered questionnaire | Incidence | Physician diagnosis | Diabetes mellitus | 23928, 479, 2991 |
| cvd 462792 | 2019 | Banks | New South Wales, Australia | Prospective cohort | Both | 7.4-45-99 | Postal questionnaire | Incidence or Mortality | Hospital admissions data, vital records | Ischemic heart disease | 11778, 188167 |
| cvd 462795 | 2019 | Barengo | Finland | Prospective cohort | Both | 11.8-45-74 | Self-administered questionnaire | Incidence or Mortality | Vital records, hospital | Cardiovascular diseases | 13030 |
| Study ID | Priority Code | First Author | Year | Location | Study Design | Study Type | Sample Size | Follow-up | Data Collection Methods | Disease Definitions | Notes |
|----------|---------------|--------------|------|----------|--------------|------------|-----------|-----------|------------------------|-------------------|-------|
| cvd 462821 | Wu 2019 | Residents of rural Tianjin, who are primarily low-income farmers | China | Prospective cohort | Both | 23.16 | Face-to-face interview | Incidence | Clinical examination, medical records | 85346.5 | 638 | 3906 | Ischemic stroke; Stroke; Hemorrhagic stroke |
| cvd 463012 | Pencina 2019 | Varied from four publically available datasets | Multi-location | Pooled prospective cohort | Both | 10 | 45 | 84 | Varied | Incidence | 2114 | 22626 | Ischemic heart disease |
| cvd 463471 | Kouvari 2019 | Healthy volunteers in the greater metropolitan area of Athens; Hospitalized patients in 6 major general hospitals | Greece | Pooled prospective cohort | Both | 10 | Enrollment interview | Incidence or Mortality | Self-report, vital records, familial reporting | 1128 | 5124 | | Cardiovascular diseases |
| copd 502472 | Li 2019 | All participants were from the Uyghur population in Kashgar; patients | China | Case-control | Both | 18 | 99 | Questionnaire | Incidence | Physician diagnosis | | COPD (a forced expiratory volume/forced vital capacity (FEV1/FVC) < 0.70 in the first second after inhalation of a | 440 | 384 | Community |
| ihd 462792 | Banks 2019 | Sax Institute's 45 and Up Study | New South Wales, Australia | Prospective cohort | Both | 7.4 | 45 | 99 | Self-administered questionnaire | Incidence | Hospital admissions, death registry | 135000 | 11778 | 188167 | IHD (ICD-10-AM I20-I25) as well as acute myocardial infarction (AMI, I21) |
| STUDY | NO | AUTHORS | YEAR | STUDY | NATION | GROUPS | SEX | AGE | INTERVIEW | MEASUREMENT | CONTROL | CASES | DEATHS | RISK FACTORS |
|-------|----|---------|------|-------|--------|--------|-----|-----|-----------|-------------|---------|-------|--------|--------------|
| ihd   | 502077 | Jee | 2019 | Korean Life Course Health Study | Republic of Korea | Prospective cohort | Male | 23 20 29 | Interview | Incidence & Mortality | Hospital admissions, death certificates | 519182 3 | 2786 118531 | IHD (ICD-10 codes, I20–I25), acute myocardial infarction (AMI) alone (I21) and angina pectoris alone (ICD-10 codes, I20) |
| ihd   | 432350 | Zhu | 2019 | participants from 10 geographically diverse areas of China, including five urban and five rural areas | China | Prospective cohort | Both | 10.2 30 79 | Self-administered questionnaire | Mortality | Death registries | 480000 0 | 13003 452657 | IHD (ICD-10 I20-I25) |
| stroke | 432350 | Zhu | 2019 | participants from 10 geographically diverse areas of China, including five urban and five rural areas | China | Prospective cohort | Both | 10.2 30 79 | Self-administered questionnaire | Mortality | Death registries | 480000 0 | 3987 452657 | Ischemic stroke |
| stroke | 502077 | Jee | 2019 | Koreans who were screened by KMIC in 1992 and 1994 | Republic of Korea | Prospective cohort | Male | 23 20 29 | Interview | Incidence & Mortality | Hospital admissions, death certificates | 519182 3 | 2368 118531 | Stroke (ICD-10 I60-I69) |
| stroke | 501896 | Ding | 2019 | participants age 45 to 64 years from 4 U.S. | United States | Prospective cohort | Both | 26 45 64 | Interview | Incidence | Hospital admissions | 347230 1106 13355 | Stroke (definite or probable ischemic and |
| Study ID | First Name | Last Name | Year | Area | Study Design | Country/Area | Risk Factor | Follow-up | Data Collection | Methodology | Incidence | Mortality | Death Registry | Incident | Self-report | Administrative Records | Disease Registry | Diagnoses | Disease Registry | Disease Registry | Disease Registry | Disease Registry | Disease Registry | Disease Registry | Disease Registry | Disease Registry |
|----------|------------|-----------|------|------|--------------|--------------|-------------|-----------|----------------|--------------|-----------|-----------|----------------|-----------|------------|-------------------|----------------|-----------|-------------------|----------------|----------------|-------------------|----------------|----------------|-------------------|----------------|----------------|
| 413804   | Hamer      | 2019     |     | Health Survey for England and Scottish Health Survey | Households representative for the populations of the countries | United Kingdom, Scotland | Prospective cohort | Both | 9.4 | 18 | 99 | Interview | Mortality | Death registry | 919.94 | 579 | 97,844 | Lower respiratory infections |
| 462792   | Banks      | 2019     |     | The Sax Institute's 45 and Up Study | General population of New South Wales, Australia | Australia | Cohort | Both | 10 | 45 | 99 | incident peripheral artery disease | Incidence | Self-report | 135000 | 2311 | 267153 | Peripheral arterial disease |
| 501896   | Ding       | 2019     |     | NeuroEPIC 4PD study | US communities | United States | Cohort | Both | 26 | 45 | 64 | hospitalization with corresponding ICD codes | Incidence | Administrative records | 42319 | 199 | 7117 | Peripheral arterial disease |
| 502009   | Gallo      | 2019     |     | NeuroEPIC 4PD study | General population residing in defined geographical areas | Sweden, United Kingdom, Germany, Spain, Italy, Greece | Prospective cohort | Both | 12.8 | 37 | 70 | Interview | Incidence or Mortality | Administrative records, physician diagnosis | 266620 | 715 | 213818 | Parkinson's disease |
| 439528   | Jin        | 2019     |     | Newly registered primary cases of esophageal cancer in local cancer registries | Jiangsu, China | Case-control | Both | 18 | Structured interview | Incidence | Cancer registry | 2969 | 8019 | Esophageal cancer | From a demographic database for four counties in Jiangsu |
| 502184   | Viner      | 2019     |     | Alberta's Tomorrow Project | Residents contacted through random digit dialing in Alberta | Alberta, Canada | Prospective cohort | Both | 12.3 | 35 | 69 | Health and Lifestyle Questionnaire | Incidence | Cancer registry | 314966 | 98 | 25607 | Leukemia |
| 502184   | Viner      | 2019     |     | Alberta's Tomorrow Project | Residents contacted through random digit | Alberta, Canada | Prospective cohort | Both | 12.3 | 35 | 69 | Health and Lifestyle Questionnaire | Incidence | Cancer registry | 314966 | 88 | 25607 | Colon cancer | Breast cancer (ICD-3) |
| 502184   | Viner      | 2019     |     | Alberta's Tomorrow Project | Residents contacted through random digit | Alberta, Canada | Prospective cohort | Both | 12.3 | 35 | 69 | Health and Lifestyle Questionnaire | Incidence | Cancer registry | 314966 | 88 | 25607 | Colon cancer |

**Notes:**
- The study IDs and titles are derived from the authors' last names.
- The years correspond to the publication or study completion years.
- The areas listed include countries, regions, and specific study locations.
- The risk factors are specific to each study, indicating the conditions or populations studied.
- The follow-up periods range from 9 to 18 years, with the majority being 10 to 12 years.
- Data collection methods include interviews, mortality registries, self-reports, and specific disease registries.
- The disease registries mentioned are responsible for recording and tracking the incidence and mortality of the respective conditions.
| Study ID | Authors | Year | Country | Study Design | Age | Data Collection Method | Outcomes | Number of Cases | Number of Controls |
|----------|---------|------|---------|--------------|-----|------------------------|----------|-----------------|-------------------|
| colon_an d_rectum_cancer | 502236 | Lee | 2019 | Korea | Case-control | Both | <50 60+ | Structured interview | Incidence | Physician diagnosis, biomarker |
| other_pharynx_cancer | 439813 | Yamashita | 2019 | Japan | Case-control | Male | 18 99 | Self-administered questionnaire, interview | Incidence | Hospital records |
| other_pharynx_cancer | 439809 | Zeng | 2019 | China | Case-control | Both | 18 99 | Questionnaire | Incidence | Medical records |

Patients that visited the hospital for a health-screening program provided by the National Health Insurance Service.
| Prostate_cancer | 502474 | Yuriko N Koyanagi | 2019 | Japanese adults participating in 1 of 10 population studies | Japan | Prospective cohort | Male | 12.7 | 35 | 104 | self-report | incident diagnosis of pancreatic cancer | Administrative medical records or disease registries | 727175 | 256 | 53540 | Pancreatic Cancer |
|----------------|--------|------------------|------|-------------------------------------------------------------|-------|-------------------|------|------|----|------|------------|-----------------------------------------------|-----------------------------------------------|------|------|-------|------------------|
| Pancreatic_cancer | 502220 | Brian Z Huang | 2019 | The mulitethnic cohort participants | United States | Prospective cohort | Both | 45 | 75 | self-report | incident diagnosis of pancreatic cancer | Physician diagnosis | 1,532 | 184,559 | Pancreatic Cancer |
| Kidney_cancer | 502217 | Everatt | 2019 | Men living in the city of Kaunas, Lithuania | Lithuania | Prospective cohort | Male | 19.2 | 40 | 59 | Interview | Incidence or mortality | Administrative medical registry and death register | 131322 | 79 | 6849 | Kidney cancer |
| Rheumatoid_arthritis | 502084 | Xinyi Liu | 2019 | participants of the NHS and NHSII studies, female nurses aged 30-50 | United States | Prospective Cohort | Femal e | 38 | 33 | 75 | Self-report | incident RA | self-report | 1,528 | 230732 | Rheumatoid arthritis |
| Lung_cancer | 502184 | Viner | 2019 | adults aged 35-69 in Alberta, Canada who answered random digit dialing and had not been previously diagnosed with cancer, live in Alberta for 1 year, and speak English | Alberta, Canada | Prospective Cohort | Both | 12.3 | 35 | 69 | Self-Report Questionnaire | Incidence | Linkage with Alberta Cancer Registry | 2370 | 26607 | prostate cancer, breast cancer, endometrial cancer, colon cancer, lung cancer, leukemia, non-hodgkin lymphoma, hematological cancers |
| ID   | First name | Last name | Year | Study | Country of Participants | Study design | Gender | Age Range | Method of Data Collection | Population size | Population Size Type |
|------|------------|-----------|------|-------|--------------------------|--------------|--------|------------|--------------------------|----------------|----------------------|
| 502252 | Lai | 2019 | Lung cancer patients registered with the Kerman Cancer Registry | Taiwan, China | Case-control | Both | 30-80 | Self-administered questionnaire | Incidence of histologically confirmed cases | Lung cancer | 140-280 |
| 502208 | Jin | 2019 | Histologically confirmed lung cancer patients from Queen Mary Hospital | China | Case-control | Female | 18-95 | Self-administered questionnaire | Incidence | Lung cancer | 331-331 |
| 501896 | Ding | 2020 | ARIC Study participants aged 45-64 years from four U.S. communities | United States | Prospective cohort | Both | 26-64 | Interview | Incidence & Mortality | Hospital admissions | CHD (definite or probable myocardial infarction or fatal CHD) |
| 502134 | Wilsgaard | 2020 | The Tromso Study participants from the municipality of Tromso, Norway | Norway | Prospective cohort | Both | 19-69 | Self-administered questionnaire | Incidence of disease and death registries | Myocardial infarction |
| 502250 | Oshunbade | 2020 | Jackson Heart Study participants, aged 21 to 84 years, who were recruited from the tricounty area surrounding Jackson, MS (Hinds, Rankin, and Madison). | Jackson, MI | Prospective cohort | Both | 11.8-84 | Self-administered questionnaire | Incidence | Stroke |
| 502248 | Peters | 2020 | UK Biobank Study women and men 40 to 69 years of age at baseline who attended 1 of the 22 centers across the United Kingdom | United Kingdom | Prospective cohort | Both | 9-69 | Self-administered questionnaire | Incidence | Stroke (fatal or nonfatal ischemic stroke (I63 or I64), hemorrhagic stroke (I61), and all stroke as defined by codes |
| Study | Year | Country | Design | Gender | Tumor Type | Location | Tumor Type | Cohort Type | Size | Follow-Up | Location | Tumor Type | Location | Tumor Type | Location | Tumor Type | Location |
|-------|------|---------|--------|--------|------------|----------|------------|-------------|------|-----------|----------|------------|----------|------------|----------|------------|----------|
| Stroke | 2020 | Finland | Prospective | Both | I60.0, I61, I63, or I64 in ICD-10 | Finland | Prospective cohort | Both | 43 | 18 | 99 | Self-administered questionnaire | Mortality | Death registry | 869469 | 120 | 16282 | Subarachnoidal hemorrhage (ICD codes 430 (8th and 9th versions) and I60.0 to I60.9 (10th version)) |
| TB    | 2020 | India   | Case-control | Both | 18 | 95 | Self-report | Incidence | Hospital records | 92 | 184 | Hospital |
| Nasopharyngeal cancer | 2020 | Taiwan | Case-control | Male | 18 | 69 | Structured interview | Incidence | Physician diagnosis, Biomarker | 1235 | 1262 | Nasopharyngeal cancer |
| Pancreatic cancer | 2020 | Western Europe | Case-control | Both | 18 | 99 | Self-report | Incidence of pancreatic cancer | Physician diagnosis | Pancreatic Cancer | 2009 | 1532 | Population |
| Rheumatoid arthritis | 2020 | United States | Case-control | Both | 18 | 76 | Self-report | Incident RA | Physician diagnosis | Rheumatoid arthritis | 54 | 216 | CLUE I cohort participants without RA |
| Lung cancer | 2020 | United States | Case-control | Both | 35 | 81 | Administered questionnaire | Incidence | Histologic confirmed cases | Lung cancer | 132 | 132 | Hospital |
| Lung cancer | 2020 | Poland | Case-control | Male | 45 | 80 | Self-administered questionnaire | Incidence | X-ray and CT confirmed | Lung cancer | 68 | 1808 | Population |
| COPD | 2021 | United Kingdom | Prospective cohort | Both | 8 | 40 | 69 | Self-administered questionnaire | Incidence | Medical records or death registry | 644917 | 7956 | 411569 | COPD (ICD 9th Revision codes 492, 492-0, |
| Study Type | Study Title | Design | Country/City/Region | Number of Participants | Age Range | Gender | Outcome | Data Source | Disease Code(s) |
|------------|-------------|--------|----------------------|------------------------|-----------|--------|---------|-------------|----------------|
| copd | across the UK | men and women aged 35 years or older, from two districts of Mexico City | Prospective cohort | Mexico | Both | 20 | 35 | 89 | Interview | Mortality | Death registry | 375 | 129151 | COPD (ICD-10) |
| copd | Patients who had been referred to the First, Second, and Third | Case-control | Ulaanbaatar, Mongolia | Both | 18 | 99 | Self-administered questionnaire | Incidence | Physician diagnosis | 181 | 292 | Commun |
| stroke | Jichi Medical School Cohort Study | Prospective cohort | Japan | Both | 10.7 | 18 | 69 | Interview | Incidence | Medical records | 121166 | 417 | 11324 | Stroke (including intracerebral hemorrhages, cerebral infarctions, and subarachnoid hemorrhages) |
| stroke | UK Biobank Study | Prospective cohort | United Kingdom | Both | 11.4 | 50 | 74 | Self-administered questionnaire | Incidence | Medical records | 416877 | 10053 | 365682 | Stroke (ICD-10: stroke (I60, I61, I62.9, I63, I64, I67.8, I69.0, and I69.3), ischemic stroke (I63), hemorrhagic stroke (I60 and I62.9)) |
| tb | Singapore Chinese Health Study | Prospective cohort study | Chinese adults from 2 major dialect groups (Hokkien) | Both | 18.2 | 45 | 74 | Cigarettes/day | Incidence or Mortality | Disease registry | 18.2 | 1358 | 60245 | Tuberculosis |
| Study | Year | Authors | Study Design | Study Population | Country | Occupation | Method | Incidence or Mortality | Hospital records and death register | Cases | Controls | Disease |
|-------|------|---------|--------------|------------------|---------|-------------|--------|----------------------|------------------------------------|-------|---------|---------|
| Alzheimer_other_dementia | 2021 | 502162 | Gong | UK Biobank | United Kingdom | Participants who attended 1 of the 22 assessment centers | Both | 11.8 40 69 | Self-report | 592626 6 | 4068 | 502,226 | Dementia |
| Alzheimer_other_dementia | 2021 | 501943 | Zhang | UK Biobank | United Kingdom | Participants who attended 1 of the 22 assessment centers | Both | 11.4 39 74 | Self-report | 416877 4 | 5079 | 365,682 | Dementia |
| Esophageal_cancer | 2021 | 500795 | Jayalekshmi | Residents of the Karunagappally taluk, Kerala, India | Provisional cohort | Both | 16.7 30 84 | Standardized questionnaire | Cancer registry and death registry | 108715 5 | 158 | 65528 | Esophageal cancer |
| Esophageal_cancer | 2021 | 502130 | Mezzoiuso | FRiCaM Multisite Cohort Study | Milan, Italy | Residents in the municipality of Milan | Female | 15 41 76 | Self-report through questionnaire | Cancer registry | 112090 0 | 33 | 75324 | Esophageal cancer |
| Esophageal_cancer | 2021 | 502488 | Okello | Residents of the endoscopy unit of the Mbarara Regional Referral Hospital (MRRH), southwestern Uganda | Provisional cohort | Both | 40 86 | Interview | Physician diagnosis | Esophageal cancer | 31 54 | Healthy community individuals |
| Stomach_cancer | 2021 | 502130 | Mezzoiuso | FRiCaM Multisite Cohort Study | Milan, Italy | Residents in the municipality of Milan | Female | 15 41 76 | Self-report through questionnaire | Cancer registry | 112090 0 | 225 | 75324 | Stomach cancer |
| Stomach_cancer | 2021 | 502141 | Zhang | Residents of Taixing for at least 5 years | Case-control | Both | 40 85 | Structured interview | Cancer registry | Stomach cancer | 944 1972 | Taixing Population Registry |
| Leukemia | 2021 | 502130 | Mezzoiuso | FRiCaM Multisite Cohort Study | Milan, Italy | Residents in the municipality of Milan | Female | 15 41 76 | Self-administered questionnaire | Cancer registry | 112090 0 | 128 | 75324 | Leukemia |
| Liver_cancer | 2021 | 502130 | Mezzoiuso | FRiCaM Multisite Cohort Study | Milan, Italy | Residents in the municipality of Milan | Female | 15 41 76 | Self-administered questionnaire | Cancer registry | 112090 0 | 143 | 75324 | Liver cancer |
| Disease                  | Study Code | Study Year | Study Title                                                                 | Country | Study Type | Gender | Age Range | Study Population | Collection Method | Incidence | Unique | Follow-up | Disease Coding |
|--------------------------|------------|------------|------------------------------------------------------------------------------|---------|------------|---------|------------|------------------|-------------------|-----------|---------|-----------|----------------|
| Laryngeal cancer         | 502130     | Mezziouso 2021 | FRiCaM Multisite Cohort Study <br>Residents in the municipality of Milan     | Milan, Italy | Prospective cohort | Femal e | 15-41 | 76 | Self-report through questionnaire | Incidence Cancer registry | 112090 0 | 29 | 73324 | Laryngeal cancer |
| Breast cancer            | 502130     | Mezziouso 2021 | FRiCaM Multisite Cohort Study <br>women aged 41-76 years who resided in the municipality of Milan | Italy | Prospective cohort | Femal e | 15-41 | 76 | Self-administered questionnaire | Incidence Disease registry | 112986 0 | 2952 | 73324 | Breast cancer (ICD10: C50) |
| Cervical cancer          | 502130     | Mezziouso 2021 | FRiCaM Multisite Cohort Study <br>Residents in the municipality of Milan     | Milan, Italy | Prospective cohort | Femal e | 15-41 | 76 | Self-administered questionnaire | Incidence Cancer registry | 112090 0 | 62 | 73324 | Cervical cancer |
| Colon and rectum cancer  | 502484     | Roh 2021    | Patients who participated in the voluntary health screening program of the National Cancer Center, Korea | Korea | Prospective cohort | Both | NA | 19-78 | Self-administered questionnaire | Incidence Cancer registry | NA | NA | 8121 | Colon cancer |
| Colon and rectum cancer  | 502130     | Mezziouso 2021 | FRiCaM Multisite Cohort Study <br>Residents in the municipality of Milan     | Milan, Italy | Prospective cohort | Femal e | 15-41 | 76 | Self-report through questionnaire | Incidence Cancer registry | 112090 0 | 197 | 73324 | Colon cancer |
| Colon and rectum cancer  | 502135     | Chen 2021   | Participants in the MJ Health Management Institution for self-paying medical screening in Taiwan | Taiwan | Prospective cohort | Both | 7.4 | 40-99 | Self-report through questionnaire | Incidence Cancer registry | 173192 5 | 1972 | 234044 | Colon cancer |
| Colon and rectum cancer  | 502196     | Chottanapund 2021 | Patients in 11 Thai provincial hospitals | Thailand | Case-control | Both | 35 | 99 | Standardized questionnaire | Incidence Hospital records | Col 04 | 997 | Colon cancer | Patients that visited the hospitals for health check ups |
| Other pharynx cancer | 502194 | Shewale | 2021 | Patients in the outpatient otolaryngology at The Ohio State University | Ohio, United States | Case-control | Both | 18 | 99 | Computer-assisted self-interview | Incidence | Hospital records | Other pharynx cancer | 249 | 478 | Patients without history of cancer seen for benign conditions |
|----------------------|--------|---------|------|------------------------------------------------------------------------|---------------------|--------------|------|----|----|----------------------------------|----------|------------------|----------------------|------|------|---------------------------------------------------------------|
| Lip oral cavity cancer | 502130 | Angelo Giosuè Mezzoiuso | 2021 | participants in the FRiCAM study living in Milano, Italy | Italy | Prospective cohort | Femal e | 15 | 14 | 76 | self-report | Incident diagnosis of oral cancer | Physician diagnosis | 112 | 75,324 | Lip and Oral Cavity Cancer |
| Pancreatic cancer | 502130 | Angelo Giosuè Mezzoiuso | 2021 | participants in the FRiCAM study living in Milano, Italy | Italy | Prospective cohort | Femal e | 15 | 14 | 76 | self-report | Incident diagnosis of pancreatic cancer | Physician diagnosis | 309 | 75,324 | Pancreatic Cancer |
| Pancreatic cancer | 502128 | Ahmad Naghibzadeh-Tahami | 2021 | adults living in Kerman Province | Kerman, Iran | Case-control | Both | 18 | 99 | self-report | incidence of pancreatic cancer | Administrative medical records or disease registries | Pancreatic Cancer | 176 | 352 | Population |
| Bladder cancer | 502130 | Mezzoiuso | 2021 | Residents in the municipality of Milan | Milan, Italy | Prospective cohort | Femal e | 15 | 41 | 76 | Self-administered questionnaire | Incidence | Cancer registry | Bladder cancer | 112090 | 0 | 170 | 75324 |
| Bladder cancer | 502089 | Abdolahinia | 2021 | Patients in a teaching hospital | Kerman, Iran | Case-control | Both | 40 | 93 | Structured questionnaire | Incidence | Hospital records | Bladder cancer | 100 | 200 | Patients from other hospitals who had undergone cystoscopy due to diseases unrelated to the bladder |
| Kidney cancer | 502132 | Minami | 2021 | Japanese residents from 11 public health centers | Japan | Prospective cohort | Both | 19.1 | 40 | 69 | Self-administered questionnaire | Incidence | Hospital notification, cancer registry, and death registry | Kidney cancer | 2020364 | 340 | 106003 | Kidney cancer |
| Study | Cohort | Institution | Country | Gender | Age Range | Study Type | Data Collection | Disease | Incidence | Registry | Case Number | Location |
|-------|--------|-------------|---------|--------|-----------|------------|----------------|----------|------------|-----------|------------|----------|
| kidney cancer | 502130 | Mezzoiuso | Milan, Italy | Femal e | 15-41 | Prospective cohort | Self-administered questionnaire | Kidney cancer | Cancer registry | 1120900 | 167 | 75324 |
| cataracts | 501958 | Jiaqing Zhang | Australia | Both | 10-45 | Prospective Cohort | self-report | Incidence of cataract surgery during the follow-up period before the age of 65 | 434675 | 1057 | 49284 |
| lung cancer | 499241 | Hansen | Norway | Femal e | 25-30 | Prospective Cohort | Self-Report Questionnaire | Clinical records | NOWAC | 764512 | 1507 | 142508 |
| lung cancer | 502124 | Weber | New South Wales, Australia | Both | 10-45 | Prospective Cohort | Self-Report Questionnaire | Linkage with Cancer Registry | 18475 | 229028 |

Institution: FRiCaM Multisite Cohort Study

Cohort: Residents in the municipality of Milan

Study: Sax Institute's 45 and Up Study

Prospective Cohort: The Central Population Register selected a random sample of women according to the year of birth from University of Tromsø - The Arctic University of Norway.

Prospective Cohort: Adults enrolled in the 45 and up study living in New South Wales, Australia

Prospective Cohort: Both

Prospective Cohort: 10-45

Prospective Cohort: 15-41

Prospective Cohort: 25-30

Prospective Cohort: 45-99

Disease: Lung, Myelodysplasia, Small intestine, Mesothelioma, Haematopoietic, Multiple Myeloma, Thyroid, Brain, Endometrium, NHL, Ovary, Melanoma, Breast (female), Prostate, Renal and Ureter,
| 502130 | Mezzoiuso | 2021 | FRI/CAM multicenter cohort study | all women 41-76 residing in Milan from 2003 to 2006 who had a mammogram | Italy | Prospective Cohort | Female | 15 | 41 | 76 | Self-Report Questionnaire | Incidence | Self-report diagnosis | 9487 | 75324 | Lung cancer |

| 502190 | Park | 2021 | Korean National Cancer Center Community Cohort | adults more than 20 years old diagnosed with any type of cancer | South Korea | Prospective Cohort | Both | 23 | 20 | 90 | Self-Report Questionnaire | Mortality | Clinical Records | 939852 | .65 | Lung cancer |

| 502192 | Jia | 2021 | UK Biobank participants in the UK biobank study, adults from England, Scotland, and Wales between 40-69 | United Kingdom | Prospective Cohort | Both | 5.8 | 40 | 69 | Self-Report Questionnaire | Incidence | linkage with hospital records | 1779 | 308490 | Lung cancer |

| 502147 | Huang | 2021 | 2015) of China" | Taiwan, China | case-control | Both | 20 | 80 | administered interview | Incidence | Hospital records, diagnosed with | Lung cancer |
| Study | Paper ID | Authors | Year | Study Design | Country | Sex | Age | Inclusion Criteria | Exclusion Criteria | ICD10 Code | n | 95% CI | Variability |
|-------|----------|---------|------|--------------|---------|-----|-----|-------------------|-------------------|-------------|----|--------|------------|
| lung_cancer | 502202 | Rusmaully | 2021 | Case-control | Taiwan | Female | 18 | 75 | Lung cancer from Taichung Cheng Ching Hospital, Chung Shan Medical University, and Taichung Tungs’ Taichung MetroHarbor Hospital in central Taiwan | | C33-C44 | 237 | 474 | Varied |
| diabetes | 502053 | Huh | 2022 | Prospective cohort | South Korea | Both | 8.2 | 20 | 39 | Young adults from the South Korean National Health Insurance Service (NHIS) database | | | |
| colon_an d_rectum _cancer | 502139 | Ugai | 2022 | Prospective cohort | United States | Both | 27.8 | 30 | 75 | Nurses’ Health Study, Health Professionals’ Follow-up Study, Females and male health professionals | | | |
| lip_oral_ cavity_cancer | 502243 | Isabela Firigato | 2022 | Case-control | Brazil | Both | 18 | 99 | OSCC patients with histologically confirmed diagnosis were recruited from the Heliopolis Hospital, Sao Paulo, Brazil | Lip and Oral Cavity Cancer | C47 | 234 | 422 | Hospital |
| Study | ID   | Authors | Year | Source | Study Population | Study Design | Sex | Age | Age Range | Method of Diagnosis | Risk Factor | Incidence | Population | Country | Diabetes | Hospital | Diabetes Mortality | Diabetes | Notes |
|-------|------|---------|------|--------|------------------|--------------|-----|-----|-----------|-------------------|-------------|-----------|-----------|---------|-----------|---------|-------------------|---------|-------|
| cataracts | 501887 | Soheil Mehmandoost | 2022 | Shafa hospital in Kerman City | newly diagnosed patients with cataracts eligible for surgery within the next 3 months | case-control | Both | 50 | 64 | self-report | Incidence | Physician diagnosis | cataracts | 160 | 320 | Hospital |
| lung cancer | 502075 | Zhang | 2022 | UK Biobank | participants in the UK biobank study, adults from England, Scotland, and Wales between 40-69 | Prospective Cohort | Both | 7.2 | 40 | 69 | Self-Report Questionnaire | Incidence | Self-report diagnosis | lung cancer | 2,454,915 | 1687 | 344,107 | Lung cancer |
| lung cancer | 502126 | Guo | 2022 | Cancer Screening Program in Urb | adults with lung cancer in Tehran, Iran without suspected pulmonary metastases from a different primary tumor | Prospective Cohort | Both | 8 | 40 | 79 | Self-Report Questionnaire | Incidence | Clinical Records | lung cancer | 6,491,000 | 589 | 282,254 | Lung cancer |
| lung cancer | 502215 | Huang | 2022 | adults with lung cancer in Tehran, Iran without suspected pulmonary metastases from a different primary tumor | case-control | Both | 29 | 93 | administered interview | Incidence | Pathologic confirmation | Lung cancer | 190 | 380 | Hospital |
| lung cancer | 502213 | Tse | 2022 | WELCA study | | case-control | Male | 35 | 79 | self-administered questionnaire | Incidence | Histologic confirmed cases | lung cancer (ICD C33-C34) | 716 | 757 | Population |
| aortic aneurism | 343424 | Burns | 2022 | Cancer Prevention Study I | Friends, neighbors and acquaintances of ACS volunteers | Prospective cohort | Both | 6 | 50 | 99 | Self-administered questionnaire | Mortality | Vital records | Aortic aneurysm (ICD-7, 451) | 786,387 | | |
from 25 states in the US
Section 3: Study quality & bias assessment

For each study that met the inclusion criteria, one reviewer assessed the indicators of bias included in the extraction template (Table 2). These indicators of bias were quantified as binary covariates included in risk curve estimations upon determining significant indicators by cause (Table 7).

Table 4: Study bias characteristics

| NID  | Cause                        | Author | Year | Study design     | Location            | cv_adj_L0 | cv_adj_L1 | cv_adj_L2 | cv_exposure_study | cv_older | cv_subpopulation |
|------|------------------------------|--------|------|------------------|---------------------|-----------|-----------|-----------|-------------------|----------|------------------|
| 328492 | Alzheimer's and other dementia | Ohara  | 2015 | Prospective cohort | Japan               | 0         | 0         | 0         | 1                 | 1        | 0                |
| 328517 | Alzheimer's and other dementia | Rusanan | 2011 | Prospective cohort | United States       | 1         | 1         | 1         | 1                 | 0        | 1                |
| 349159 | Alzheimer's and other dementia | Garcia | 2010 | Case-control      | Spain               | 0         | 0         | 0         | 1                 | 0        | 1                |
| 358834 | Alzheimer's and other dementia | Ikeda  | 2008 | Nested case-control | Japan              | 0         | 0         | 0         | 1                 | 1        | 1                |
| 358836 | Alzheimer's and other dementia | Prince | 1994 | Case-control      | United Kingdom      | 1         | 1         | 1         | 1                 | 1        | 1                |
| 358838 | Alzheimer's and other dementia | Shalat | 1987 | Case-control      | United States       | 1         | 1         | 1         | 1                 | 0        | 1                |
| 501943 | Alzheimer's and other dementia | Zhang  | 2021 | Prospective cohort | United Kingdom      | 1         | 1         | 1         | 1                 | 0        | 0                |
| 502162 | Alzheimer's and other dementia | Gong   | 2021 | Prospective cohort | United Kingdom      | 1         | 0         | 0         | 1                 | 0        | 1                |
| 173863 | Aortic aneurism               | Doll   | 1994 | Prospective cohort | United Kingdom      | 1         | 0         | 0         | 0                 | 0        | 1                |
| 236197 | Aortic aneurism               | Pirie  | 2013 | Prospective cohort | United Kingdom      | 1         | 0         | 0         | 1                 | 0        | 0                |
| 328259 | Aortic aneurism               | Nilsson| 2001 | Prospective cohort | Sweden              | 1         | 0         | 0         | 1                 | 1        | 0                |
| 331705 | Aortic aneurism               | Lawlor | 2008 | Prospective cohort | Republic of Korea   | 0         | 0         | 0         | 1                 | 0        | 1                |
| 343424 | Aortic aneurism               | Burns  | 1997 | Prospective cohort | United States       | 1         | 1         | 1         | 1                 | 0        | 1                |
| 347380 | Aortic aneurism               | Carstensen | 1987 | Prospective cohort | Sweden              | 1         | 0         | 0         | 1                 | 0        | 0                |
| 350128 | Aortic aneurism               | Wilmink| 1999 | Nested case-control | England, United Kingdom | 0     | 0         | 0         | 1                 | 0        | 1                |
| 350131 | Aortic aneurism               | Rogot  | 1980 | Prospective cohort | United States       | 1         | 1         | 1         | 1                 | 0        | 1                |
| 358841 | Aortic aneurism               | Forsdahl| 2009 | Prospective cohort | Norway              | 0         | 0         | 0         | 1                 | 0        | 0                |
| 358843 | Aortic aneurism               | Wong   | 2007 | Prospective cohort | United States       | 0         | 0         | 0         | 1                 | 0        | 1                |
| 358845 | Aortic aneurism               | Irbarren| 2007 | Prospective cohort | United States       | 0         | 0         | 0         | 1                 | 0        | 1                |
| 358857 | Aortic aneurism               | Sode   | 2013 | Prospective cohort | Denmark             | 0         | 0         | 0         | 1                 | 0        | 1                |
| 111344 | Asthma                        | Strachan| 1996 | Prospective cohort | United Kingdom      | 1         | 1         | 1         | 1                 | 0        | 0                |
| 173863 | Asthma                        | Doll   | 1994 | Prospective cohort | United Kingdom      | 1         | 0         | 0         | 0                 | 0        | 1                |
| 346726 | Asthma                        | Genumneit| 2006 | Prospective cohort | Germany             | 1         | 0         | 0         | 1                 | 0        | 1                |
| 346728 | Asthma                        | Gilliland| 2006 | Prospective cohort | United States       | 1         | 0         | 0         | 1                 | 0        | 1                |
| 346730 | Asthma                        | Piipari| 2004 | Case-control      | Finland             | 1         | 0         | 0         | 1                 | 0        | 1                |
| 346737 | Asthma                        | Nakamura| 2009 | Prospective cohort | Japan              | 0         | 0         | 0         | 1                 | 0        | 0                |
| Study ID  | Disease                  | Type          | Country       | Year | Cases | Controls | Exposure | Risk  | Controls | Exposure | Risk  |
|----------|--------------------------|---------------|---------------|------|-------|----------|----------|-------|----------|----------|-------|
| 346743   | Asthma                   | Troisi 1995   | United States | 1    | 1     | 0        | 1        | 0     | 1        | 0        |       |
| 324155   | Atrial fibrillation and flutter | Zuo 2017 | Prospective cohort | Norway | 0 | 0 | 0 | 1 | 0 | 0 |
| 324155   | Atrial fibrillation and flutter | Zuo 2017 | Prospective cohort | Norway | 1 | 1 | 0 | 1 | 0 | 0 |
| 324168   | Atrial fibrillation and flutter | Kokubu 2017 | Prospective cohort | Japan | 1 | 1 | 0 | 1 | 0 | 0 |
| 350084   | Atrial fibrillation and flutter | Heeringa 2008 | Prospective cohort | Netherlands | 0 | 0 | 0 | 1 | 1 | 0 |
| 350084   | Atrial fibrillation and flutter | Heeringa 2008 | Prospective cohort | Netherlands | 1 | 1 | 0 | 1 | 1 | 0 |
| 350091   | Atrial fibrillation and flutter | Maattioli 2008 | Case-control | Italy | 1 | 0 | 0 | 1 | 0 | 0 |
| 357504   | Atrial fibrillation and flutter | Rosengren 2009 | Prospective cohort | Sweden | 1 | 1 | 0 | 1 | 0 | 0 |
| 343155   | Bladder cancer            | Chiu 2001     | Case-control | United States | 0 | 0 | 0 | 1 | 0 | 1 |
| 343198   | Bladder cancer            | Cao 2005      | Case-control | China | 1 | 0 | 0 | 1 | 0 | 1 |
| 343580   | Bladder cancer            | Siemiatycki 1995 | Case-control | Canada | 1 | 1 | 1 | 1 | 0 | 0 |
| 344435   | Bladder cancer            | Burch 1989    | Case-control | Canada | 1 | 0 | 0 | 1 | 0 | 0 |
| 502089   | Bladder cancer            | Abdolahinia 2021 | Case-control | Iran | 1 | 0 | 0 | 1 | 0 | 1 |
| 502130   | Bladder cancer            | Mezzoiniuso 2021 | Prospective cohort | Italy | 1 | 0 | 0 | 1 | 0 | 0 |
| 502393   | Bladder cancer            | Yu 1997       | Case-control | China | 0 | 0 | 0 | 1 | 0 | 1 |
| 502401   | Bladder cancer            | Wakai 2000    | Case-control | Japan | 1 | 0 | 0 | 1 | 0 | 1 |
| 502403   | Bladder cancer            | Geoffroy-Perez 2001 | Case-control | France | 1 | 0 | 0 | 1 | 0 | 1 |
| 502413   | Bladder cancer            | Fortuny 1999  | Case-control | Denmark, France, Germany, Greece, Italy, Spain | 1 | 0 | 0 | 1 | 1 | 0 |
| 502415   | Bladder cancer            | Liang 2008    | Case-control | United States | 1 | 1 | 0 | 1 | 0 | 1 |
| 502417   | Bladder cancer            | Sun 2004      | Prospective cohort | China | 1 | 1 | 1 | 1 | 0 | 1 |
| 502423   | Bladder cancer            | Hung 2004     | Case-control | Italy | 1 | 1 | 0 | 1 | 0 | 1 |
| 502425   | Bladder cancer            | Gaertner 2004 | Case-control | Canada | 0 | 0 | 0 | 1 | 0 | 1 |
| 502429   | Bladder cancer            | Taylor 1998   | Case-control | United States | 1 | 1 | 0 | 1 | 0 | 1 |
| 502431   | Bladder cancer            | Band 2005     | Case-control | Canada | 1 | 1 | 1 | 1 | 0 | 1 |
| 502435   | Bladder cancer            | Covolo 2008   | Case-control | Italy | 1 | 1 | 1 | 1 | 0 | 1 |
| 502437   | Bladder cancer            | Zheng 2011    | Case-control | Egypt | 1 | 1 | 1 | 1 | 0 | 1 |
| 502444   | Bladder cancer            | Quirk 2004    | Case-control | China | 1 | 1 | 1 | 1 | 0 | 1 |
| Study ID  | Cancer Type  | Study Design | Country(ies)                          | Case-Control | Study Year | Follow-up | Study Design | Country(ies)                          | Case-Control | Study Year | Follow-up | Case-Control | Study Year | Follow-up | Case-Control | Study Year | Follow-up | Case-Control | Study Year | Follow-up | Case-Control | Study Year | Follow-up |
|----------|--------------|--------------|---------------------------------------|--------------|------------|-----------|--------------|---------------------------------------|--------------|------------|-----------|--------------|------------|-----------|--------------|------------|-----------|--------------|------------|-----------|--------------|------------|-----------|
| 502446   | Bladder      | Case-control | China, United States                  | 1            | 2009       | 1         |            | China, United States                  | 1            | 2009       | 1         | 1            | 2009       | 0         | 1            | 2009       | 0         | 1            | 2009       | 0         |
| 502446   | Bladder      | Case-control | China, United States                  | 1            | 2009       | 1         | 1          | 1          | 2009       | 1         |            | 0         | 1            | 2009       | 0         | 0            | 2009       | 0         | 0            | 2009       | 0         |
| 502450   | Bladder      | Case-control | United States                         | 1            | 2009       | 0         | 0          | 1          | 2009       | 0         |            | 1         | 0            | 2009       | 1         | 1            | 2009       | 1         | 0            | 2009       | 1         |
| 502450   | Bladder      | Case-control | United States                         | 1            | 2009       | 1         | 0          | 1          | 2009       | 1         |            | 0         | 1            | 2009       | 0         | 0            | 2009       | 0         | 0            | 2009       | 0         |
| 502452   | Bladder      | Case-control | United States                         | 1            | 1991       | 1         | 0          | 1          | 1991       | 0         |            | 1         | 0            | 1991       | 1         | 0            | 1991       | 1         | 0            | 1991       | 1         |
| 502456   | Bladder      | Prospective  | Japan                                 | 1            | 2009       | 1         | 1          | 1          | 2009       | 1         |            | 0         | 1            | 2009       | 0         | 0            | 2009       | 0         | 0            | 2009       | 0         |
| 502458   | Bladder      | Case-control | Canada                                | 1            | 1994       | 1         | 1          | 1          | 1994       | 1         |            | 0         | 1            | 1994       | 0         | 0            | 1994       | 0         | 0            | 1994       | 0         |
| 502462   | Bladder      | Prospective  | United States                         | 1            | 1993       | 1         | 1          | 1          | 1993       | 1         |            | 0         | 1            | 1993       | 0         | 0            | 1993       | 0         | 0            | 1993       | 0         |
| 502464   | Bladder      | Case-control | Spain                                 | 1            | 2006       | 1         | 1          | 1          | 2006       | 1         |            | 0         | 1            | 2006       | 0         | 0            | 2006       | 0         | 0            | 2006       | 0         |
| 502466   | Bladder      | Case-control | United States                         | 1            | 2010       | 1         | 1          | 1          | 2010       | 1         |            | 1         | 1            | 2010       | 1         | 0            | 2010       | 1         | 0            | 2010       | 1         |
| 502468   | Bladder      | Case-control | United States                         | 1            | 1990       | 0         | 0          | 1          | 1990       | 1         |            | 1         | 1            | 1990       | 1         | 1            | 1990       | 1         | 1            | 1990       | 1         |
| 502476   | Bladder      | Case-control | United States                         | 1            | 2009       | 1         | 0          | 1          | 2009       | 1         |            | 0         | 1            | 2009       | 0         | 0            | 2009       | 0         | 0            | 2009       | 0         |
| 502486   | Bladder      | Case-control | Switzerland                          | 1            | 2006       | 1         | 0          | 1          | 2006       | 1         |            | 0         | 1            | 2006       | 0         | 0            | 2006       | 0         | 0            | 2006       | 0         |
| 309776   | Breast       | Case-control | Switzerland                          | 0            | 1996       | 0         | 0          | 1          | 1996       | 0         |            | 0         | 1            | 1996       | 0         | 0            | 1996       | 0         | 0            | 1996       | 0         |
| 310321   | Breast       | Prospective  | Denmark, France, Germany, Greece, Italy| 1            | 2014       | 1         | 1          | 1          | 2014       | 1         |            | 1         | 1            | 2014       | 0         | 0            | 2014       | 0         | 0            | 2014       | 0         |
| 310343   | Breast       | Prospective  | Norway                                | 0            | 2013       | 0         | 0          | 1          | 2013       | 0         |            | 1         | 1            | 2013       | 0         | 0            | 2013       | 0         | 0            | 2013       | 0         |
| 310352   | Breast       | Prospective  | United States                         | 0            | 2011       | 0         | 0          | 1          | 2011       | 0         |            | 1         | 0            | 2011       | 0         | 0            | 2011       | 0         | 0            | 2011       | 0         |
| 310353   | Breast       | Prospective  | United States                         | 0            | 2011       | 0         | 0          | 0          | 2011       | 0         |            | 0         | 0            | 2011       | 1         | 0            | 2011       | 1         | 0            | 2011       | 1         |
| 310366   | Breast       | Case-control | Sweden                                | 1            | 2007       | 0         | 0          | 1          | 2007       | 0         |            | 1         | 0            | 2007       | 1         | 0            | 2007       | 1         | 0            | 2007       | 1         |
| 310414   | Breast       | Prospective  | Norway, Sweden                         | 0            | 2005       | 0         | 0          | 1          | 2005       | 0         |            | 1         | 0            | 2005       | 0         | 0            | 2005       | 0         | 0            | 2005       | 0         |
| 310428   | Breast       | Case-control | United States                         | 0            | 2005       | 0         | 0          | 1          | 2005       | 0         |            | 1         | 1            | 2005       | 1         | 1            | 2005       | 1         | 1            | 2005       | 1         |
| 310438   | Breast       | Prospective  | United States                         | 0            | 2004       | 0         | 0          | 1          | 2004       | 0         |            | 0         | 1            | 2004       | 0         | 0            | 2004       | 0         | 0            | 2004       | 0         |
| 310463   | Breast       | Case-control | United States                         | 0            | 1998       | 0         | 0          | 1          | 1998       | 0         |            | 1         | 0            | 1998       | 1         | 0            | 1998       | 1         | 0            | 1998       | 1         |
| 310478   | Breast       | Case-control | United States                         | 0            | 1990       | 0         | 0          | 1          | 1990       | 0         |            | 1         | 0            | 1990       | 1         | 0            | 1990       | 1         | 0            | 1990       | 1         |
| 310487   | Breast       | Case-control | United States                         | 1            | 1990       | 1         | 1          | 1          | 1990       | 1         |            | 0         | 1            | 1990       | 0         | 0            | 1990       | 0         | 0            | 1990       | 0         |
| 328339   | Breast       | Prospective  | Japan                                 | 1            | 2007       | 0         | 0          | 1          | 2007       | 0         |            | 0         | 1            | 2007       | 0         | 0            | 2007       | 0         | 0            | 2007       | 0         |
| Study ID | Disease  | First Author | Year  | Study Design | Country/Region | Papers | Martin et al. | Guo et al. | Cao et al. | Zhang et al. | Fang et al. | Li et al. |
|----------|----------|--------------|-------|--------------|---------------|--------|--------------|------------|-----------|-------------|------------|----------|
| 358689   | Breast cancer | Lemogne | 2013 | Prospective cohort | France | 0 | 0 | 0 | 1 | 0 | 1 |
| 359074   | Breast cancer | Jones | 2017 | Prospective cohort | United Kingdom | 0 | 0 | 0 | 0 | 0 | 1 |
| 359076   | Breast cancer | Van den Brandt | 2017 | Case-cohort | Netherlands | 0 | 0 | 0 | 1 | 1 | 0 |
| 359078   | Breast cancer | White | 2017 | Prospective cohort | United States, Puerto Rico | 0 | 0 | 0 | 1 | 0 | 1 |
| 359082   | Breast cancer | Conlon | 2010 | Case-control | Canada | 1 | 1 | 0 | 1 | 0 | 1 |
| 359086   | Breast cancer | Kawai | 2014 | Case-control | United States | 1 | 0 | 0 | 1 | 0 | 1 |
| 359094   | Breast cancer | Arthur | 2017 | Nested case-control | United States | 1 | 1 | 1 | 1 | 0 | 1 |
| 448179   | Breast cancer | Gram | 2016 | Prospective cohort | Norway | 1 | 1 | 1 | 1 | 1 | 0 |
| 502130   | Breast cancer | Mezzioso | 2021 | Prospective cohort | Italy | 1 | 0 | 0 | 1 | 0 | 0 |
| 502184   | Breast cancer | Viner | 2019 | Prospective cohort | Canada | 0 | 0 | 0 | 1 | 0 | 1 |
| 502439   | Breast cancer | Ellingjord-Dale | 2017 | Nested case-control | Norway | 1 | 1 | 1 | 1 | 0 | 0 |
| 115406   | COPD | Van Durme | 2009 | Prospective cohort | Netherlands | 1 | 1 | 0 | 1 | 1 | 0 |
| 315813   | COPD | Johannessen | 2005 | Prospective cohort | Norway | 1 | 0 | 0 | 1 | 0 | 0 |
| 343461   | COPD | Hirayama | 1990 | Prospective cohort | Japan | 1 | 1 | 0 | 1 | 0 | 0 |
| 356165   | COPD | Forey | 2011 | Meta-analysis | United Kingdom, Italy, Chile, Canada, United States, Poland, Sweden, Norway, China, Belgium, Spain, Greece, South Africa, Turkey, Japan, Netherlands, Denmark, Nigeria, Finland, France, India, South Korea, Czechia, Slovakia, Taiwan, Iceland, Thailand, Australia, Brazil, Mexico, Uruguay, Venezuela, Estonia, Germany, Nepal | 1 | 1 | 0 | 1 | 0 | 1 |
| 356273   | COPD | Leem | 2018 | Prospective cohort | Republic of Korea | 1 | 0 | 0 | 0 | 0 | 0 |
| 356275   | COPD | Deng | 2017 | Case-control | China | 1 | 0 | 0 | 1 | 0 | 1 |
| 356342   | COPD | Omori | 2011 | Prospective cohort | Japan | 1 | 0 | 0 | 0 | 0 | 1 |
| 356344   | COPD | Perez-Padilla | 1996 | Case-control | Mexico | 1 | 1 | 1 | 1 | 0 | 1 |
| Study ID | Disease | Year | Study Type | Country/Countries | Country/Region | 1 | 0 | 0 | 1 | 0 | 1 |
|----------|---------|------|------------|-------------------|----------------|---|---|---|---|---|---|
| 426275   | COPD    | 2013 | Prospective cohort | United States, Puerto Rico, Guam | United States | 1 | 0 | 0 | 1 | 0 | 1 |
| 426275   | COPD    | 2013 | Prospective cohort | United States | United States | 1 | 0 | 0 | 1 | 0 | 0 |
| 502093   | COPD    | 2021 | Both | Mongolia | 0 | 0 | 0 | 1 | 0 | 0 |
| 502095   | COPD    | 2021 | Prospective cohort | United Kingdom | United States | 0 | 0 | 0 | 1 | 0 | 0 |
| 502107   | COPD    | 2021 | Prospective cohort | Mexico | United States | 0 | 0 | 0 | 0 | 0 | 0 |
| 502472   | COPD    | 2019 | Both | China | 1 | 1 | 1 | 1 | 1 | 1 |
| 261496   | Cataracts | 2002 | Prospective cohort | United States | United States | 0 | 0 | 0 | 0 | 0 | 1 |
| 261527   | Cataracts | 1997 | Prospective cohort | United States | United States | 0 | 0 | 0 | 1 | 1 | 1 |
| 263023   | Cataracts | 2005 | Prospective cohort | Sweden | United States | 0 | 0 | 0 | 1 | 0 | 0 |
| 350491   | Cataracts | 1989 | Prospective cohort | United Kingdom | United States | 1 | 1 | 1 | 0 | 1 | 0 |
| 350493   | Cataracts | 1992 | Prospective cohort | United Kingdom | United States | 0 | 0 | 0 | 1 | 0 | 0 |
| 359116   | Cataracts | 2016 | Prospective cohort | United Kingdom | United States | 0 | 0 | 0 | 1 | 0 | 0 |
| 359118   | Cataracts | 2014 | Prospective cohort | Sweden | United States | 0 | 0 | 0 | 1 | 0 | 0 |
| 359119   | Cataracts | 1992 | Prospective cohort | United States | United States | 0 | 0 | 0 | 1 | 0 | 1 |
| 359121   | Cataracts | 1996 | Case-control | Scotland, United Kingdom | United States | 1 | 1 | 0 | 1 | 0 | 0 |
| 501958   | Cataracts | 2021 | Prospective Cohort | Australia | United States | 1 | 1 | 1 | 1 | 0 | 0 |
| 328339   | Cervical cancer | 2007 | Prospective cohort | Japan | United States | 1 | 0 | 0 | 1 | 0 | 0 |
| 347864   | Cervical cancer | 1999 | Nested case-control | Sweden | United States | 1 | 1 | 1 | 1 | 0 | 0 |
| 358583   | Cervical cancer | 2013 | Prospective cohort | Denmark, France, Germany, Greece, Italy, the Netherlands, Norway, Spain, Sweden, the United Kingdom | United States | 1 | 1 | 1 | 1 | 0 | 0 |
| 502130   | Cervical cancer | 2021 | Prospective cohort | Italy | United States | 1 | 0 | 0 | 1 | 0 | 0 |
| 164581   | Colon and rectum cancer | 2003 | Prospective cohort | Japan | United States | 0 | 0 | 0 | 1 | 1 | 0 |
| 309619   | Colon and rectum cancer | 2003 | Prospective cohort | Japan | United States | 0 | 0 | 0 | 1 | 0 | 0 |
| 328339   | Colon and rectum cancer | 2007 | Prospective cohort | Japan | United States | 1 | 0 | 0 | 1 | 1 | 0 |
| Study ID | Disease Type          | Authors       | Year | Study Type        | Country          | Cases A | Cases B | Cases C | Cases D | Cases E | Cases F | Cases G | Cases H |
|----------|----------------------|---------------|------|-------------------|------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| 343580   | Colon and rectum cancer | Siemiatycki   | 1995 | Case-control      | Canada           | 1      | 1      | 1      | 1      | 0      | 0      |        |        |
| 347927   | Colon and rectum cancer | Limburg      | 2003 | Prospective cohort | United States    | 0      | 0      | 0      | 1      | 1      | 1      |        |        |
| 347932   | Colon and rectum cancer | Gram         | 2009 | Prospective cohort | Norway           | 0      | 0      | 0      | 1      | 0      | 0      |        |        |
| 347935   | Colon and rectum cancer | Hooker       | 2008 | Prospective cohort | United States    | 1      | 0      | 0      | 1      | 0      | 1      |        |        |
| 358658   | Colon and rectum cancer | Cross        | 2014 | Nested case-control | United States    | 0      | 0      | 0      | 1      | 1      | 1      |        |        |
| 358689   | Colon and rectum cancer | Lemogne      | 2013 | Prospective cohort | France           | 0      | 0      | 0      | 1      | 0      | 1      |        |        |
| 502130   | Colon and rectum cancer | Mezzoiuso    | 2021 | Prospective cohort | Italy            | 1      | 0      | 0      | 1      | 0      | 0      |        |        |
| 502135   | Colon and rectum cancer | Chen         | 2021 | Prospective cohort | Taiwan           | 0      | 0      | 0      | 1      | 0      | 1      |        |        |
| 502139   | Colon and rectum cancer | Ugai         | 2022 | Prospective cohort | United States    | 0      | 0      | 0      | 0      | 0      | 1      |        |        |
| 502184   | Colon and rectum cancer | Viner        | 2019 | Prospective cohort | Canada           | 0      | 0      | 0      | 1      | 0      | 1      |        |        |
| 502196   | Colon and rectum cancer | Chottanapund | 2021 | Case-control      | Thailand         | 1      | 0      | 0      | 1      | 0      | 0      |        |        |
| 502236   | Colon and rectum cancer | Lee          | 2019 | Case-control      | Republic of Korea | 0      | 0      | 0      | 1      | 0      | 0      |        |        |
| 502484   | Colon and rectum cancer | Roh          | 2021 | Prospective cohort | Republic of Korea | 1      | 0      | 0      | 1      | 0      | 1      |        |        |
| 298512   | Esophageal cancer      | Ishiguro     | 2009 | Prospective cohort | Japan            | 0      | 0      | 0      | 1      | 0      | 1      |        |        |
| 309841   | Esophageal cancer      | Gao          | 1994 | Case-control      | China            | 0      | 0      | 0      | 1      | 0      | 1      |        |        |
| 328266   | Esophageal cancer      | Liaw         | 1998 | Prospective cohort | Taiwan           | 1      | 0      | 0      | 1      | 0      | 0      |        |        |
| 328339   | Esophageal cancer      | Ozasa        | 2007 | Prospective cohort | Japan            | 1      | 0      | 0      | 1      | 0      | 0      |        |        |
| 339730   | Esophageal cancer      | Cheng        | 2000 | Case-control      | United Kingdom   | 1      | 1      | 0      | 1      | 0      | 1      |        |        |
| 343383   | Esophageal cancer      | Vaughan      | 1995 | Case-control      | United States    | 0      | 0      | 0      | 1      | 0      | 0      |        |        |
| 343580   | Esophageal cancer      | Siemiatycki  | 1995 | Case-control      | Canada           | 1      | 1      | 1      | 1      | 0      | 0      |        |        |
| 345310   | Esophageal cancer      | Sakata       | 2005 | Prospective cohort | Japan            | 1      | 0      | 0      | 1      | 0      | 0      |        |        |
| 345324   | Esophageal cancer      | Matsuo       | 2001 | Case-control      | Japan            | 1      | 1      | 0      | 1      | 0      | 1      |        |        |
| 345328   | Esophageal cancer      | Yokoyama     | 2002 | Case-control      | Japan            | 1      | 1      | 0      | 1      | 0      | 0      |        |        |
| 439528   | Esophageal cancer      | Jin          | 2019 | Case-control      | China            | 0      | 0      | 0      | 1      | 0      | 1      |        |        |
| 500795   | Esophageal cancer      | Jayalekshmi  | 2021 | Prospective cohort | India            | 1      | 1      | 1      | 1      | 0      | 0      |        |        |
| 502130   | Esophageal cancer      | Mezzoiuso    | 2021 | Prospective cohort | Italy            | 1      | 0      | 0      | 1      | 0      | 0      |        |        |
| 502488   | Esophageal cancer      | Okello      | 2021 | Case-control      | Uganda           | 0      | 0      | 0      | 1      | 0      | 1      |        |        |
| 350721   | Gallbladder disease    | Stampfer     | 1992 | Prospective cohort | United States    | 0      | 0      | 0      | 1      | 0      | 1      |        |        |
| 350723   | Gallbladder disease    | Liu          | 2009 | Prospective cohort | United Kingdom   | 0      | 0      | 0      | 1      | 0      | 1      |        |        |
| 350725   | Gallbladder disease    | Sahi         | 1998 | Prospective cohort | United States    | 0      | 0      | 0      | 1      | 0      | 1      |        |        |
| Study ID | Disease                  | Author     | Year | Study Design          | Country/Region                                                                 | 1 | 2 | 3 | 4 | 5 | 6 |
|----------|--------------------------|------------|------|-----------------------|-------------------------------------------------------------------------------|---|---|---|---|---|---|
| 351491   | Gallbladder disease      | Layde      | 1982 | Prospective cohort    | United Kingdom                                                                 | 1 | 1 | 1 | 1 | 0 | 1 |
| 165539   | Ischemic heart disease   | Jacobs     | 1999 | Prospective cohort    | United States, Finland, Netherlands, Italy, Croatia, Serbia, Greece, Japan     | 0 | 0 | 0 | 1 | 0 | 1 |
| 174238   | Ischemic heart disease   | Doll       | 2004 | Prospective cohort    | United Kingdom                                                                 | 1 | 0 | 0 | 0 | 0 | 1 |
| 236194   | Ischemic heart disease   | Bjartveit  | 1005 | Prospective cohort    | Norway                                                                        | 1 | 1 | 0 | 1 | 0 | 0 |
| 236197   | Ischemic heart disease   | Pirie      | 2013 | Prospective cohort    | United Kingdom                                                                 | 0 | 0 | 0 | 1 | 0 | 0 |
| 249384   | Ischemic heart disease   | Iversen    | 2013 | Prospective cohort    | Norway                                                                        | 1 | 1 | 1 | 1 | 0 | 1 |
| 298268   | Ischemic heart disease   | Gun        | 2006 | Prospective cohort    | Australia                                                                      | 1 | 0 | 0 | 1 | 0 | 0 |
| 309699   | Ischemic heart disease   | Kalandidi  | 1992 | Case-control          | Greece                                                                        | 1 | 0 | 0 | 1 | 0 | 1 |
| 309729   | Ischemic heart disease   | Tavani     | 2004 | Pooled case-control   | Italy                                                                          | 0 | 0 | 0 | 1 | 1 | 1 |
| 309729   | Ischemic heart disease   | Tavani     | 2004 | Pooled case-control   | Italy                                                                          | 0 | 0 | 0 | 1 | 0 | 1 |
| 328259   | Ischemic heart disease   | Nilsson    | 2001 | Prospective cohort    | Sweden                                                                         | 1 | 0 | 0 | 1 | 0 | 0 |
| 328274   | Ischemic heart disease   | Chen       | 1997 | Prospective cohort    | China                                                                          | 1 | 0 | 0 | 1 | 0 | 1 |
| 328460   | Ischemic heart disease   | Kono       | 1985 | Prospective cohort    | Japan                                                                          | 1 | 1 | 0 | 1 | 0 | 1 |
| 328472   | Ischemic heart disease   | Yuan       | 1996 | Prospective cohort    | China                                                                          | 1 | 0 | 0 | 1 | 0 | 1 |
| 330932   | Ischemic heart disease   | Lam        | 2007 | Prospective cohort    | China                                                                          | 0 | 0 | 0 | 1 | 1 | 0 |
| 331705   | Ischemic heart disease   | Lawlor     | 2008 | Prospective cohort    | Republic of Korea                                                             | 0 | 0 | 0 | 1 | 0 | 0 |
| 332104   | Ischemic heart disease   | Shaper     | 2003 | Prospective cohort    | United Kingdom                                                                | 0 | 0 | 0 | 1 | 0 | 1 |
| 334410   | Ischemic heart disease   | Kuller     | 1991 | Prospective cohort    | United States                                                                  | 1 | 0 | 0 | 1 | 0 | 0 |
| 335266   | Ischemic heart disease   | Molshatzki | 2013 | Prospective cohort    | Israel                                                                         | 0 | 0 | 0 | 1 | 0 | 0 |
| 335762   | Ischemic heart disease   | Zhang      | 2011 | Prospective cohort    | Germany                                                                        | 0 | 0 | 0 | 1 | 0 | 0 |
| 336216   | Ischemic heart disease   | Thun       | 2013 | Pooled prospective cohort | United States                                                      | 1 | 0 | 0 | 1 | 1 | 0 |
| 336319   | Ischemic heart disease   | Jamrozik   | 2011 | Pooled prospective cohort | Australia                                                               | 0 | 0 | 0 | 1 | 1 | 0 |
| 336682   | Ischemic heart disease   | Jonsdottir | 2002 | Prospective cohort    | Iceland                                                                        | 0 | 0 | 0 | 1 | 0 | 0 |
| 336801   | Ischemic heart disease   | Woodward   | 2005 | Pooled prospective cohort | Multi-country                                                       | 1 | 1 | 1 | 1 | 0 | 1 |
| 343310   | Ischemic heart disease   | Prescott   | 2002 | Prospective cohort    | Denmark                                                                        | 0 | 0 | 0 | 1 | 0 | 0 |
| 343312   | Ischemic heart disease   | Ehteshami-Afshar | 2014 | Prospective cohort    | Iran                                                                            | 0 | 0 | 0 | 1 | 0 | 0 |
| 343400   | Ischemic heart disease   | Kawachi    | 1994 | Prospective cohort    | United States                                                                  | 1 | 1 | 0 | 0 | 0 | 1 |
| Study ID | Study Title          | Year | Study Type          | Country              | Led by | 1990 | 1980 | 1985 | 1989 | 1991 | 1992 |
|----------|----------------------|------|---------------------|----------------------|--------|------|------|------|------|------|------|
| 343461   | Ischemic heart disease | Hirayama | 1990 | Prospective cohort | Japan    | 1    | 1    | 0    | 1    | 0    | 0    |
| 355955   | Ischemic heart disease | Doll | 1980 | Prospective cohort | United Kingdom | 1    | 1    | 0    | 0    | 0    | 1    |
| 355955   | Ischemic heart disease | Doll | 1980 | Prospective cohort | United Kingdom | 1    | 1    | 0    | 1    | 1    | 0    |
| 355955   | Ischemic heart disease | Doll | 1980 | Prospective cohort | United Kingdom | 1    | 1    | 0    | 1    | 0    | 0    |
| 356107   | Ischemic heart disease | Lv    | 2017 | Prospective cohort | China    | 1    | 0    | 0    | 1    | 0    | 0    |
| 356109   | Ischemic heart disease | Watt  | 1995 | Prospective cohort | United Kingdom | 1    | 1    | 0    | 1    | 0    | 1    |
| 356114   | Ischemic heart disease | Schnohr | 2015 | Prospective cohort | Denmark | 1    | 1    | 1    | 1    | 0    | 0    |
| 356141   | Ischemic heart disease | Lubin | 2016 | Prospective cohort | United States | 0    | 0    | 0    | 1    | 0    | 0    |
| 356143   | Ischemic heart disease | Lubin | 2017 | Pooled prospective cohort | Finland, United States | 0    | 0    | 0    | 1    | 0    | 0    |
| 356143   | Ischemic heart disease | Lubin | 2017 | Pooled prospective cohort | Finland, United States | 1    | 1    | 1    | 1    | 0    | 0    |
| 357254   | Ischemic heart disease | Hippisley-Cox | 2015 | Prospective cohort | United Kingdom | 1    | 1    | 1    | 1    | 0    | 0    |
| 357264   | Ischemic heart disease | Ciruzzi | 2002 | Case-control | Argentina | 1    | 1    | 0    | 1    | 1    | 0    |
| 357264   | Ischemic heart disease | Ciruzzi | 2002 | Case-control | Argentina | 0    | 0    | 0    | 1    | 1    | 0    |
| 357274   | Ischemic heart disease | Dunn | 1999 | Case-control | United Kingdom | 1    | 1    | 0    | 1    | 0    | 1    |
| 357353   | Ischemic heart disease | Gramenzi | 1989 | Case-control | Italy | 0    | 0    | 0    | 1    | 0    | 1    |
| 357373   | Ischemic heart disease | Ismail | 2004 | Case-control | Pakistan | 1    | 1    | 0    | 1    | 0    | 1    |
| 357410   | Ischemic heart disease | Kabagambe | 2007 | Case-control | Costa Rica | 0    | 0    | 0    | 1    | 0    | 1    |
| 357413   | Ischemic heart disease | Miyake | 2000 | Case-control | Japan | 0    | 0    | 0    | 1    | 0    | 1    |
| 357413   | Ischemic heart disease | Miyake | 2000 | Case-control | Japan | 0    | 0    | 0    | 1    | 1    | 1    |
| 357427   | Ischemic heart disease | Oliveira | 2007 | Case-control | Portugal | 0    | 0    | 0    | 1    | 0    | 1    |
| 357429   | Ischemic heart disease | Oliveira | 2009 | Case-control | Portugal | 0    | 0    | 0    | 1    | 0    | 1    |
| 357441   | Ischemic heart disease | Pais | 1996 | Case-control | India | 1    | 1    | 0    | 1    | 0    | 1    |
| 357453   | Ischemic heart disease | Piegas | 2003 | Case-control | Brasil | 1    | 1    | 0    | 1    | 0    | 1    |
| 357456   | Ischemic heart disease | Quek | 1989 | Case-control | Malaysia | 1    | 1    | 1    | 1    | 0    | 1    |
| 357927   | Ischemic heart disease | Rastogi | 2005 | Case-control | India | 0    | 0    | 0    | 1    | 0    | 1    |
| 357948   | Ischemic heart disease | Rosenberg | 1983 | Case-control | United States | 1    | 1    | 0    | 1    | 0    | 1    |
| 357952   | Ischemic heart disease | Rosenberg | 1999 | Case-control | United States | 0    | 0    | 0    | 1    | 0    | 1    |
| 357956   | Ischemic heart disease | Rosenberg | 2001 | Case-control | United States | 1    | 0    | 0    | 1    | 0    | 1    |
| 357959   | Ischemic heart disease | Rossi | 2011 | Case-control | Costa Rica | 0    | 0    | 0    | 1    | 0    | 1    |
| 358054   | Ischemic heart disease | Suh | 2001 | Case-control | Republic of Korea | 1    | 0    | 0    | 1    | 0    | 1    |
| Study ID | Cancer Type        | Study Design  | Country(s)                          | Year | Number of Studies | Region(s) |
|----------|-------------------|---------------|------------------------------------|------|------------------|-----------|
| 358066   | Ischemic heart disease | Pooled case-control | Italy                              | 1999 | 0                | 0         |
| 359113   | Ischemic heart disease | Case-control   | United States                       | 1985 | 1                | 0         |
| 359114   | Ischemic heart disease | Case-control   | United States                       | 1981 | 1                | 0         |
| 359115   | Ischemic heart disease | Case-control   | United States                       | 1989 | 0                | 1         |
| 359320   | Ischemic heart disease | Case-control   | United States                       | 1983 | 0                | 1         |
| 432350   | Ischemic heart disease | Prospective cohort | China                              | 2019 | 0                | 0         |
| 462792   | Ischemic heart disease | Prospective cohort | Australia                         | 2019 | 0                | 0         |
| 501896   | Ischemic heart disease | Prospective cohort | United States                       | 2020 | 0                | 1         |
| 502077   | Ischemic heart disease | Prospective cohort | Republic of Korea                  | 2019 | 1                | 1         |
| 502134   | Ischemic heart disease | Prospective cohort | Norway                             | 2020 | 0                | 1         |
| 164492   | Kidney cancer      | Prospective cohort | United States                       | 2005 | 1                | 0         |
| 164580   | Kidney cancer      | Prospective cohort | United States                       | 2007 | 0                | 1         |
| 328339   | Kidney cancer      | Prospective cohort | Japan                              | 2007 | 1                | 0         |
| 343155   | Kidney cancer      | Case-control    | United States                       | 2001 | 0                | 1         |
| 343580   | Kidney cancer      | Case-control    | Canada                             | 1995 | 1                | 1         |
| 358807   | Kidney cancer      | Case-control    | Australia                          | 1992 | 0                | 1         |
| 358809   | Kidney cancer      | Case-control    | Germany                            | 1995 | 1                | 0         |
| 358812   | Kidney cancer      | Case-control    | United States                       | 1995 | 0                | 1         |
| 358814   | Kidney cancer      | Case-control    | United States                       | 2001 | 1                | 0         |
| 413175   | Kidney cancer      | Case-control    | Canada                             | 2005 | 0                | 1         |
| 502130   | Kidney cancer      | Prospective cohort | Italy                             | 2021 | 0                | 1         |
| 502323   | Kidney cancer      | Prospective cohort | Japan                             | 2021 | 1                | 1         |
| 502217   | Kidney cancer      | Prospective cohort | Lithuania                         | 2019 | 0                | 1         |
| 502427   | Kidney cancer      | Case-control    | United States                       | 2008 | 1                | 0         |
| 502427   | Kidney cancer      | Case-control    | United States                       | 2008 | 1                | 0         |
| 502441   | Kidney cancer      | Case-control    | Denmark                            | 1994 | 1                | 1         |
| 502448   | Kidney cancer      | Case-control    | Russia, Romania, Poland, Czech Republic | 2008 | 0                | 1         |
| 502478   | Kidney cancer      | Case-control    | Australia, Denmark, Germany, Sweden, United States | 1995 | 0                | 1         |
| 502480   | Kidney cancer      | Case-control    | China                              | 1992 | 1                | 0         |
| Study ID  | Type of Cancer                | Study Type       | Location          | Country Count | Risk Factors |
|----------|------------------------------|------------------|-------------------|---------------|--------------|
| 298142   | Laryngeal cancer             | Case-control     | Turkey            | 1             | 0 0 1 0 1    |
| 298147   | Laryngeal cancer             | Case-control     | China             | 1             | 0 0 1 0 1    |
| 343375   | Laryngeal cancer             | Case-control     | Brazil            | 0             | 0 0 1 0 1    |
| 364113   | Laryngeal cancer             | Case-control     | Multi-country     | 0             | 0 0 1 0 1    |
| 502130   | Laryngeal cancer             | Case-control     | Italy             | 1             | 0 0 1 0 1    |
| 328339   | Leukemia                     | Prospective cohort| Japan             | 1             | 0 0 1 1 0    |
| 343390   | Leukemia                     | Prospective cohort| Japan             | 1             | 0 0 1 0 0    |
| 343390   | Leukemia                     | Prospective cohort| Japan             | 1             | 1 0 1 0 0    |
| 502184   | Leukemia                     | Prospective cohort| Canada            | 0             | 0 0 1 0 1    |
| 502395   | Leukemia                     | Case-control     | Sweden            | 1             | 0 0 1 0 1    |
| 502397   | Leukemia                     | Case-control     | China             | 1             | 1 0 1 0 1    |
| 502419   | Leukemia                     | Case-control     | Canada            | 1             | 0 0 1 0 0    |
| 286841   | Lip and oral cavity cancer   | Case-control     | India             | 1             | 1 1 1 1 0    |
| 343375   | Lip and oral cavity cancer   | Case-control     | Brazil            | 0             | 0 0 0 0 0    |
| 343432   | Lip and oral cavity cancer   | Case-control     | China             | 1             | 0 0 1 0 1    |
| 348052   | Lip and oral cavity cancer   | Pooled case-control| China             | 0             | 0 0 1 0 1    |
| 359126   | Lip and oral cavity cancer   | Case-control     | China             | 1             | 0 0 1 0 1    |
| 359128   | Lip and oral cavity cancer   | Prospective cohort| Japan             | 0             | 0 0 1 0 0    |
| 364113   | Lip and oral cavity cancer   | Pooled case-control| Italy             | 0             | 0 0 1 0 1    |
| 502130   | Lip and oral cavity cancer   | Prospective cohort| Italy             | 1             | 0 0 1 0 0    |
| 502243   | Lip and oral cavity cancer   | Case-control     | Brazil            | 1             | 0 0 1 0 1    |
| 502352   | Lip and oral cavity cancer   | Case-control     | China             | 1             | 0 0 1 0 0    |
| 125938   | Liver cancer                 | Case-control     | United States     | 1             | 0 0 1 0 1    |
| 293871   | Liver cancer                 | Case-control     | Republic of Korea | 1             | 0 0 1 0 1    |
| Study ID | Condition          | Author   | Year | Design Type         | Country                  | Country 1 | Country 2 | Country 3 | Country 4 | Country 5 | Country 6 | Country 7 | Country 8 | Country 9 | Country 10 | Country 11 |
|----------|--------------------|----------|------|---------------------|--------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| 328266   | Liver cancer       | Liaw     | 1998 | Prospective cohort  | Taiwan                   | 1          | 1          | 1          | 1          | 0          | 0          |           |            |            |
| 328339   | Liver cancer       | Ozasa    | 2007 | Prospective cohort  | Japan                    | 1          | 0          | 0          | 1          | 0          | 0          |           |            |            |
| 343515   | Liver cancer       | Austin   | 1986 | Case-control        | United States            | 1          | 0          | 0          | 1          | 0          | 1          |           |            |            |
| 343580   | Liver cancer       | Siemiatycki | 1995 | Case-control        | Canada                   | 0          | 0          | 0          | 1          | 0          | 1          |           |            |            |
| 343580   | Liver cancer       | Siemiatycki | 1995 | Case-control        | Canada                   | 1          | 1          | 1          | 1          | 0          | 0          |           |            |            |
| 343586   | Liver cancer       | Matsuo   | 2003 | Case-control        | Japan                    | 1          | 0          | 0          | 1          | 0          | 1          |           |            |            |
| 343588   | Liver cancer       | Munaka   | 2003 | Case-control        | Japan                    | 1          | 1          | 0          | 1          | 0          | 1          |           |            |            |
| 343590   | Liver cancer       | Gelatti  | 2005 | Case-control        | Italy                    | 0          | 0          | 0          | 1          | 0          | 1          |           |            |            |
| 343632   | Liver cancer       | Tanaka   | 1995 | Pooled case-control | Japan                    | 1          | 1          | 0          | 1          | 0          | 1          |           |            |            |
| 502130   | Liver cancer       | Mezzinoiso | 2021 | Prospective cohort  | Italy                    | 1          | 0          | 0          | 1          | 0          | 0          |           |            |            |
| 259680   | Lower back pain    | Mustard  | 2005 | Prospective cohort  | Canada                   | 1          | 1          | 1          | 1          | 0          | 1          |           |            |            |
| 348202   | Lower back pain    | Tubach   | 2002 | Prospective cohort  | France                   | 1          | 1          | 1          | 1          | 0          | 1          |           |            |            |
| 348204   | Lower back pain    | Feldman  | 1999 | Prospective cohort  | Canada                   | 0          | 0          | 0          | 1          | 0          | 1          |           |            |            |
| 348206   | Lower back pain    | Mikkonen | 2008 | Prospective cohort  | Finland                  | 1          | 1          | 1          | 1          | 0          | 1          |           |            |            |
| 348208   | Lower back pain    | Hestbaek | 2006 | Prospective cohort  | Denmark                  | 1          | 0          | 0          | 1          | 0          | 1          |           |            |            |
| 409803   | Lower back pain    | Ryden    | 1989 | Case-control        | United States            | 1          | 1          | 0          | 1          | 0          | 1          |           |            |            |
| 173863   | Lower respiratory infection | Doll | 1994 | Prospective cohort  | United Kingdom           | 1          | 0          | 0          | 0          | 0          | 1          |           |            |            |
| 236197   | Lower respiratory infection | Pirie | 2013 | Prospective cohort  | United Kingdom           | 1          | 1          | 1          | 1          | 0          | 1          |           |            |            |
| 298305   | Lower respiratory infection | Baik | 2000 | Prospective cohort  | United States            | 1          | 0          | 0          | 1          | 0          | 0          |           |            |            |
| 355108   | Lower respiratory infection | Nuorti | 2000 | Case-control        | Canada, United States    | 0          | 0          | 0          | 1          | 0          | 1          |           |            |            |
| 355112   | Lower respiratory infection | Almirall | 1999 | Case-control        | Spain                    | 1          | 1          | 1          | 1          | 0          | 1          |           |            |            |
| 355955   | Lower respiratory infection | Doll | 1980 | Prospective cohort  | United Kingdom           | 1          | 1          | 0          | 0          | 0          | 1          |           |            |            |
| 413804   | Lower respiratory infection | Hamer | 2019 | Prospective cohort  | United Kingdom           | 0          | 0          | 0          | 1          | 0          | 1          |           |            |            |
| 413804   | Lower respiratory infection | Hamer | 2019 | Prospective cohort  | United Kingdom, Scotland | 0          | 0          | 0          | 1          | 0          | 1          |           |            |            |
| 413804   | Lower respiratory infection | Hamer | 2019 | Prospective cohort  | United Kingdom           | 0          | 0          | 0          | 1          | 0          | 0          |           |            |            |
| 413804   | Lower respiratory infection | Hamer | 2019 | Prospective cohort  | United Kingdom, Scotland | 0          | 0          | 0          | 1          | 0          | 0          |           |            |            |
| 193948   | Lung cancer        | Liu      | 1991 | Case-control        | China                    | 1          | 0          | 0          | 1          | 0          | 1          |           |            |            |
| Study ID | Cancer Type | Authors | Year | Study Design | Country | Smoking | Alcohol | Obesity | Physical Activity | Occupation | Healthy Eating | Total Risk Factor | Other Risk Factors |
|---------|-------------|---------|------|--------------|---------|---------|---------|---------|----------------|-------------|----------------|------------------|-------------------|
| 193987 | Lung cancer | Brownson | 1987 | Case-control | United States | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 1 |
| 250095 | Lung cancer | Marugame | 2005 | Prospective cohort | Japan | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 |
| 286844 | Lung cancer | Dikshit | 2000 | Case-control | India | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 1 |
| 298142 | Lung cancer | Dosemeci | 1997 | Case-control | Turkey | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 |
| 321342 | Lung cancer | Freedman | 2015 | Prospective cohort | United States | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 |
| 328215 | Lung cancer | Bae | 2013 | Prospective cohort | Republic of Korea | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 |
| 328266 | Lung cancer | Liaw | 1998 | Prospective cohort | Taiwan | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 328909 | Lung cancer | Everatt | 2014 | Prospective cohort | Lithuania | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 334460 | Lung cancer | Nordlund | 1999 | Prospective cohort | Sweden | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 343580 | Lung cancer | Siemiatycki | 1995 | case-control | Quebec, Canada | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 |
| 343580 | Lung cancer | Siemiatycki | 1995 | case-control | Quebec, Canada | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |
| 355961 | Lung cancer | Chyou | 1992 | Prospective cohort | United States | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 1 |
| 355963 | Lung cancer | Potter | 1991 | Nested case-control | United States | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 355965 | Lung cancer | Chyou | 1993 | Prospective cohort | United States | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 1 |
| 355970 | Lung cancer | Pesch | 2012 | Pooled case-control | Europe, Canada | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 |
| 357351 | Lung cancer | Jockel | 1992 | Case-control | Germany | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 1 |
| 357367 | Lung cancer | Jockel | 1997 | Case-control | Germany | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 |
| 357400 | Lung cancer | De Stefani | 1996 | Case-control | Uruguay | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 |
| 357402 | Lung cancer | Lei | 1996 | Case-control | China | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 1 |
| 357404 | Lung cancer | Pawlega | 1997 | Case-control | Poland | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 |
| 357406 | Lung cancer | Wunsch-Filho | 1998 | Case-control | Brazil | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 1 |
| 357415 | Lung cancer | Mao | 2001 | Case-control | Canada | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 |
| 357437 | Lung cancer | Barbone | 1997 | Case-control | Italy | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 1 |
| 357447 | Lung cancer | Matos | 1998 | Case-control | Argentina | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 1 |
| 357451 | Lung cancer | De Stefani | 1998 | Case-control | Uruguay | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 |
| 357644 | Lung cancer | Simonato | 2001 | Pooled case-control | Sweden, Germany, United Kingdom, France, Spain, Italy | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 |
| 357757 | Lung cancer | Risch | 1993 | Case-control | Canada | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 1 |
| 357765 | Lung cancer | Sankaranarayan | 1994 | Case-control | India | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 |
| 357792 | Lung cancer | Band | 1999 | Nested case-control | Canada | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 1 |
| 357961 | Lung cancer | Becher | 1991 | Case-control | Germany | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 1 |
| Study Id | Cancer Type | Authors | Year | Study Design | Country | Years Followed | Smoking Status | Alcohol Status | Gender Status | Age Status | Follow-up Status |
|----------|-------------|---------|------|--------------|---------|----------------|----------------|--------------|--------------|------------|----------------|
| 358161   | Lung cancer | Brockmoller | 1993 | Case-control | Germany | 1 1 1 1 1 0 1 | 1 1 1 1 0 1 | 0 1          |             |             |             |                |
| 358213   | Lung cancer | Vena     | 1985 | Case-control | United States | 1 1 0 1 0 1 0 | 1 1 0 1 0 1 |             |             |             |             |                |
| 358338   | Lung cancer | Cascorbi | 1996 | Case-control | Germany | 1 1 0 1 0 1 0 | 1 1 0 1 0 1 |             |             |             |             |                |
| 358479   | Lung cancer | Chiaze   | 1992 | Nested case-control | United States | 1 1 1 1 1 0 1 | 1 1 1 1 0 1 |             |             |             |             |                |
| 358502   | Lung cancer | Ando     | 2003 | Prospective cohort | Japan | 1 1 0 1 0 1 0 | 1 1 0 1 0 0 |             |             |             |             |                |
| 358552   | Lung cancer | De Matteis | 2012 | Case-control | Italy | 1 0 0 1 0 1 0 | 1 0 0 1 0 1 |             |             |             |             |                |
| 358558   | Lung cancer | He       | 2013 | Prospective cohort | China | 0 0 0 0 0 1 1 | 1 1 0 1 0 1 |             |             |             |             |                |
| 358563   | Lung cancer | Nishino  | 2004 | Prospective cohort | Japan | 0 0 0 1 0 1 0 | 1 0 0 1 0 1 |             |             |             |             |                |
| 358565   | Lung cancer | Papadopoulos | 2011 | Case-control | France | 0 0 0 1 0 1 0 | 1 0 1 0 1 1 |             |             |             |             |                |
| 358577   | Lung cancer | Shimazu  | 2008 | Prospective cohort | Japan | 0 0 0 1 0 1 0 | 1 0 0 1 0 1 |             |             |             |             |                |
| 358597   | Lung cancer | Tindle   | 2018 | Prospective cohort | United States | 1 1 1 1 1 0 1 | 1 1 1 1 0 1 |             |             |             |             |                |
| 358717   | Lung cancer | Yong     | 1997 | Prospective cohort | United States | 1 1 1 1 1 1 0 | 0 1 1 1 0 0 |             |             |             |             |                |
| 358794   | Lung cancer | Hansen   | 2017 | Prospective cohort | Norway | 1 0 0 1 0 1 0 | 1 0 0 1 0 0 |             |             |             |             |                |
| 359451   | Lung cancer | Boffetta | 2010 | Pooled case-control | United States | 1 0 0 1 0 1 0 | 1 0 1 0 1 1 |             |             |             |             |                |
| 413177   | Lung cancer | Yun      | 2015 | Prospective cohort | Republic of Korea | 0 0 0 1 0 1 0 | 1 0 0 1 0 1 |             |             |             |             |                |
| 419667   | Lung cancer | Suzuki   | 1994 | Case-control | Brazil | 1 1 1 1 1 0 1 | 0 1 0 1 0 1 |             |             |             |             |                |
| 419669   | Lung cancer | De Stefani | 1996 | Case-control | Uruguay | 0 0 0 1 0 1 0 | 1 0 0 1 0 1 |             |             |             |             |                |
| 419671   | Lung cancer | Hu       | 1997 | Case-control | China | 1 0 0 1 0 1 0 | 1 0 0 1 0 1 |             |             |             |             |                |
| 419675   | Lung cancer | Kreuzer  | 1998 | Case-control | Germany | 1 0 0 1 1 1 1 | 1 1 1 1 0 1 |             |             |             |             |                |
| 419675   | Lung cancer | Kreuzer  | 1998 | Case-control | Germany | 1 0 0 1 1 1 1 | 1 1 1 1 0 1 |             |             |             |             |                |
| 419696   | Lung cancer | Armadans | 1999 | Case-control | Spain | 1 1 0 1 1 0 1 | 0 1 0 1 0 1 |             |             |             |             |                |
| 419717   | Lung cancer | Kubik   | 2002 | Case-control | Czechia | 1 0 0 1 0 1 0 | 1 0 0 1 0 1 |             |             |             |             |                |
| 419728   | Lung cancer | Rachtan | 2001 | Case-control | Poland | 1 1 0 1 1 0 1 | 0 1 0 1 0 1 |             |             |             |             |                |
| 426275   | Lung cancer | Thun    | 2013 | Prospective cohort | United States | 1 0 0 1 0 1 0 | 1 0 0 1 0 1 |             |             |             |             |                |
| 426275   | Lung cancer | Thun    | 2013 | Prospective cohort | United States | 1 0 0 1 0 1 0 | 1 0 0 1 0 0 |             |             |             |             |                |
| 450624   | Lung cancer | Zatloukal | 2003 | case-control | Czech Republic | 1 1 0 1 1 0 1 | 0 1 0 1 0 1 |             |             |             |             |                |
| 499241   | Lung cancer | Hansen  | 2021 | Prospective Cohort | Norway | 1 0 0 0 0 0 0 | 0 0 0 0 0 0 |             |             |             |             |                |
| 502075   | Lung cancer | Zhang   | 2022 | Prospective Cohort | United Kingdom | 0 0 0 1 0 0 0 | 0 0 0 1 0 0 |             |             |             |             |                |
| 502124   | Lung cancer | Weber   | 2021 | Prospective Cohort | Australia | 0 0 0 1 0 0 0 | 1 0 0 1 0 0 |             |             |             |             |                |
| 502126   | Lung cancer | Guo     | 2022 | Prospective Cohort | China | 1 1 1 1 1 0 1 | 0 1 0 1 0 0 |             |             |             |             |                |
| 502130   | Lung cancer | Mezzoino | 2021 | Prospective Cohort | Italy | 1 0 0 1 0 1 0 | 0 0 1 0 0 0 |             |             |             |             |                |
| 502143   | Lung cancer | Hawrysz | 2020 | case-control | Poland | 1 1 0 1 0 1 0 | 0 1 0 1 0 0 |             |             |             |             |                |
| Study ID | Disease              | Study Design | Country                | Years | Age Group | Sex | Ethnicity  | Study Type | Case | Control |
|---------|----------------------|--------------|------------------------|-------|-----------|-----|-----------|------------|------|---------|
| 502147  | Lung cancer          | case-control | Taiwan, China          | 2021  | 1         | 1   | 0         | 1          | 0    | 0       |
| 502184  | Lung cancer          | Prospective  | Canada                 | 2019  | 0         | 0   | 0         | 1          | 0    | 1       |
| 502190  | Lung cancer          | Prospective  | Republic of Korea      | 2021  | 0         | 0   | 0         | 1          | 0    | 0       |
| 502192  | Lung cancer          | Prospective  | United Kingdom         | 2021  | 1         | 1   | 1         | 1          | 0    | 0       |
| 502202  | Lung cancer          | case-control | France                 | 2021  | 1         | 0   | 0         | 1          | 0    | 0       |
| 502208  | Lung cancer          | case-control | China                  | 2019  | 1         | 1   | 1         | 1          | 0    | 1       |
| 502213  | Lung cancer          | case-control | China                  | 2022  | 1         | 1   | 1         | 1          | 0    | 1       |
| 502215  | Lung cancer          | case-control | Taiwan, China          | 2022  | 1         | 0   | 0         | 1          | 0    | 1       |
| 502234  | Lung cancer          | case-control | Iran                   | 2009  | 0         | 0   | 0         | 1          | 0    | 1       |
| 502241  | Lung cancer          | case-control | Iran                   | 2010  | 1         | 0   | 0         | 1          | 0    | 1       |
| 502246  | Lung cancer          | case-control | Japan                  | 2020  | 1         | 1   | 1         | 1          | 0    | 1       |
| 502252  | Lung cancer          | case-control | Taiwan, China          | 2019  | 1         | 0   | 0         | 1          | 0    | 1       |
| 502407  | Lung cancer          | case-control | Brazil                 | 2015  | 1         | 1   | 1         | 1          | 0    | 1       |
| 502407  | Lung cancer          | case-control | Brazil                 | 2015  | 1         | 1   | 1         | 1          | 0    | 1       |
| 502421  | Lung cancer          | case-control | Germany                | 2003  | 1         | 1   | 1         | 1          | 0    | 0       |
| 502433  | Lung cancer          | case-control | India                  | 2005  | 1         | 1   | 0         | 1          | 0    | 0       |
| 502458  | Lung cancer          | case-control | Quebec, Canada         | 1994  | 1         | 1   | 1         | 1          | 0    | 0       |
| 502460  | Lung cancer          | case-control | China                  | 2003  | 1         | 1   | 1         | 1          | 0    | 1       |
| 502482  | Lung cancer          | case-control | India                  | 2017  | 1         | 1   | 1         | 1          | 1    | 1       |
| 261355  | Macular degeneration | Prospective cohort | United States | 1996  | 0         | 0   | 0         | 1          | 0    | 1       |
| 359130  | Macular degeneration | Prospective cohort | United States | 1996  | 0         | 0   | 0         | 1          | 0    | 1       |
| 221241  | Multiple sclerosis   | Case-control  | Iran                   | 2013  | 0         | 0   | 0         | 1          | 0    | 0       |
| 348023  | Multiple sclerosis   | Pooled case-control | Sweden      | 2013  | 0         | 0   | 0         | 1          | 0    | 1       |
| 350715  | Multiple sclerosis   | Prospective cohort | United Kingdom | 1998  | 1         | 1   | 1         | 1          | 1    | 1       |
| 350717  | Multiple sclerosis   | Prospective cohort | United Kingdom | 1993  | 0         | 0   | 0         | 1          | 0    | 1       |
| 369019  | Multiple sclerosis   | Case-control  | Canada                 | 2001  | 1         | 0   | 0         | 1          | 0    | 1       |
| 369022  | Multiple sclerosis   | Case-control  | Netherlands            | 2009  | 1         | 1   | 0         | 1          | 0    | 1       |
| 328266  | Nasopharyngeal cancer | Prospective cohort | Taiwan         | 1998  | 1         | 0   | 0         | 0          | 0    | 1       |
| 328921  | Nasopharyngeal cancer | Prospective cohort | China          | 2015  | 0         | 0   | 0         | 1          | 0    | 1       |
| 328952  | Nasopharyngeal cancer | Prospective cohort | Taiwan         | 2009  | 1         | 1   | 1         | 1          | 0    | 0       |
| 346030  | Nasopharyngeal cancer | Case-control  | United States          | 1992  | 1         | 1   | 1         | 1          | 0    | 1       |
| Study ID | Cancer Type                  | Author | Year | Study Design | Country(s)                          | Smoking Status | Country(s)                          | Smoking Status | Country(s)                          | Smoking Status | Country(s)                          | Smoking Status |
|---------|------------------------------|--------|------|--------------|-------------------------------------|---------------|-------------------------------------|---------------|-------------------------------------|---------------|-------------------------------------|---------------|
| 346032  | Nasopharyngeal cancer        | Vaughan| 1996 | Case-control | United States                       | 1             | 0                                   | 0             | 1                                   | 0             | 1                                   | 0             |
| 346040  | Nasopharyngeal cancer        | Zhu    | 1995 | Case-control | United States                       | 0             | 0                                   | 0             | 1                                   | 0             | 1                                   | 0             |
| 346047  | Nasopharyngeal cancer        | Cheng  | 1999 | Case-control | Taiwan                             | 0             | 0                                   | 0             | 1                                   | 0             | 1                                   | 0             |
| 346049  | Nasopharyngeal cancer        | Yuan   | 2000 | Case-control | China                               | 0             | 0                                   | 0             | 1                                   | 0             | 1                                   | 0             |
| 346056  | Nasopharyngeal cancer        | Ji     | 2011 | Case-control | China                               | 1             | 0                                   | 0             | 1                                   | 0             | 1                                   | 0             |
| 346071  | Nasopharyngeal cancer        | Fachiroh| 2012 | Case-control | Thailand                           | 1             | 0                                   | 0             | 1                                   | 0             | 1                                   | 0             |
| 373803  | Nasopharyngeal cancer        | Chang  | 2017 | Case-control | China                               | 0             | 0                                   | 0             | 1                                   | 0             | 1                                   | 0             |
| 502223  | Nasopharyngeal cancer        | Hsu    | 2020 | Case-control | Taiwan                             | 1             | 0                                   | 0             | 1                                   | 0             | 1                                   | 0             |
| 343375  | Other pharynx cancer         | Schlecht| 1999 | Case-control | Brazil                              | 0             | 0                                   | 0             | 0                                   | 0             | 0                                   | 0             |
| 343434  | Other pharynx cancer         | Zavras | 2001 | Case-control | Greece                              | 1             | 0                                   | 0             | 1                                   | 0             | 1                                   | 0             |
| 343450  | Other pharynx cancer         | De Stefani| 1998 | Case-control | Uruguay                             | 0             | 0                                   | 0             | 1                                   | 0             | 1                                   | 0             |
| 359128  | Other pharynx cancer         | Lu     | 2018 | Prospective cohort | Japan                              | 1             | 0                                   | 0             | 1                                   | 0             | 0                                   | 0             |
| 364113  | Other pharynx cancer         | Labin  | 2010 | Pooled case-control | Italy, Switzerland, | 0             | 0                                   | 0             | 1                                   | 0             | 1                                   | 0             |
| 001000  | Other pharynx cancer         | Zeng   | 2019 | Case-control | China                               | 1             | 1                                   | 1             | 1                                   | 1             | 0                                   | 0             |
| 349813  | Other pharynx cancer         | Yamasita| 2019 | Case-control | Japan                               | 1             | 1                                   | 1             | 1                                   | 1             | 0                                   | 0             |
| 502194  | Other pharynx cancer         | Shewale| 2021 | Case-control | United States                       | 1             | 1                                   | 1             | 1                                   | 1             | 0                                   | 0             |
| 164536  | Pancreatic cancer            | Larsson| 2005 | Prospective cohort | Sweden                             | 0             | 0                                   | 0             | 1                                   | 0             | 0                                   | 0             |
| 164547  | Pancreatic cancer            | Luo    | 2007 | Prospective cohort | Japan                               | 0             | 0                                   | 0             | 1                                   | 0             | 0                                   | 0             |
| 346137  | Pancreatic cancer            | Inoue  | 2003 | Nested case-control | Japan                               | 0             | 0                                   | 0             | 1                                   | 0             | 0                                   | 0             |
| 346826  | Pancreatic cancer            | Fuchs  | 1996 | Prospective cohort | United States                       | 1             | 0                                   | 0             | 0                                   | 0             | 0                                   | 0             |
| 346828  | Pancreatic cancer            | Harnack| 1997 | Prospective cohort | United States                       | 1             | 1                                   | 0             | 1                                   | 1             | 1                                   | 1             |
| 346832  | Pancreatic cancer            | Nilson | 2000 | Prospective cohort | Norway                             | 1             | 1                                   | 0             | 1                                   | 0             | 0                                   | 0             |
| 346870  | Pancreatic cancer            | Ji     | 1995 | Case-control | China                               | 1             | 0                                   | 0             | 1                                   | 0             | 0                                   | 0             |
| 346876  | Pancreatic cancer            | Lin    | 2002 | Prospective cohort | Japan                               | 1             | 0                                   | 0             | 1                                   | 0             | 0                                   | 0             |
| Study ID   | Condition            | Year | Study Design      | Country/Region Description                  | Alcohol 1 | Alcohol 2 | Alcohol 3 | Other 1 | Other 2 | Other 3 |
|-----------|----------------------|------|-------------------|--------------------------------------------|------------|------------|------------|----------|----------|----------|
| 347176    | Pancreatic cancer    | 1994 | Case-control      | United States                              | 0          | 0          | 0          | 1        | 0        | 1        |
| 359135    | Pancreatic cancer    | 2013 | Prospective cohort| Japan                                      | 1          | 0          | 0          | 1        | 0        | 0        |
| 359138    | Pancreatic cancer    | 2010 | Prospective cohort| Denmark, France, Germany, Greece, Italy, Netherlands, Norway, Spain, Sweden, United Kingdom | 0          | 0          | 0          | 1        | 0        | 0        |
| 359139    | Pancreatic cancer    | 1996 | Case-control      | Taiwan                                     | 1          | 1          | 0          | 1        | 0        | 1        |
| 359140    | Pancreatic cancer    | 2013 | Prospective cohort| Lithuania                                  | 1          | 0          | 0          | 1        | 0        | 0        |
| 502128    | Pancreatic cancer    | 2021 | case-control      | Iran                                       | 0          | 0          | 0          | 1        | 0        | 1        |
| 502130    | Pancreatic cancer    | 2021 | Prospective cohort| Italy                                      | 1          | 0          | 0          | 1        | 0        | 0        |
| 502188    | Pancreatic cancer    | 2020 | case-control      | Europe                                     | 1          | 0          | 0          | 1        | 0        | 1        |
| 502220    | Pancreatic cancer    | 2019 | Prospective cohort| United States                              | 0          | 0          | 0          | 1        | 0        | 0        |
| 502474    | Pancreatic cancer    | 2019 | Prospective cohort| Japan                                      | 1          | 0          | 0          | 1        | 0        | 1        |
| 502474    | Pancreatic cancer    | 2019 | Prospective cohort| Japan                                      | 0          | 0          | 0          | 1        | 0        | 1        |
| 173863    | Parkinson's disease  | 1994 | Prospective cohort| United Kingdom                             | 1          | 0          | 0          | 0        | 0        | 1        |
| 355955    | Parkinson's disease  | 1980 | Prospective cohort| United Kingdom                             | 1          | 1          | 0          | 0        | 0        | 1        |
| 359151    | Parkinson's disease  | 2000 | Case-control      | United States                              | 1          | 1          | 1          | 1        | 0        | 0        |
| 359152    | Parkinson's disease  | 2001 | Pooled prospective cohort | United States | 1          | 1          | 1          | 0        | 0        | 1        |
| 359154    | Parkinson's disease  | 2014 | Case-control      | Netherlands                                | 1          | 1          | 1          | 1        | 0        | 0        |
| 359157    | Parkinson's disease  | 2010 | Case-control      | United States                              | 1          | 0          | 0          | 1        | 0        | 1        |
| 359158    | Parkinson's disease  | 2009 | Prospective cohort| United States                              | 1          | 1          | 1          | 1        | 0        | 0        |
| 359159    | Parkinson's disease  | 2007 | Prospective cohort| United States                              | 1          | 1          | 0          | 1        | 1        | 0        |
| 359160    | Parkinson's disease  | 2001 | Nested case-control| United States                              | 1          | 1          | 1          | 1        | 1        | 0        |
| 359161    | Parkinson's disease  | 1987 | Case-control      | United States                              | 1          | 1          | 1          | 1        | 0        | 0        |
| 359162    | Parkinson's disease  | 1992 | Case-control      | Spain                                      | 1          | 1          | 1          | 1        | 1        | 0        |
| 359164    | Parkinson's disease  | 1994 | Case-control      | Spain                                      | 1          | 1          | 1          | 1        | 1        | 0        |
| 359307    | Parkinson's disease  | 1990 | Nested case-control| United States                              | 1          | 1          | 1          | 1        | 1        | 0        |
| 502009    | Parkinson's disease  | 2019 | Prospective cohort| Sweden, United Kingdom, Germany              | 1          | 0          | 0          | 1        | 1        | 0        |
| Study ID | Disease                  | Country | Year | Study Type        | Study Design | Region(s)     |
|----------|--------------------------|---------|------|-------------------|--------------|---------------|
| 262563   | Peptic ulcer             | Spain, Italy, Greece | 1990 | Prospective cohort | United States | 0 0 1 0 0 0 |
| 328259   | Peptic ulcer             | Sweden  | 2001 | Prospective cohort | United States | 1 1 0 1 0 0 |
| 338384   | Peptic ulcer             | Denmark | 2003 | Prospective cohort | United States | 0 0 0 1 0 0 |
| 349377   | Peptic ulcer             | China   | 1996 | Case-control      | United States | 1 0 0 1 0 1 |
| 349381   | Peptic ulcer             | United States | 1997 | Prospective cohort | United States | 0 0 0 1 0 1 |
| 349542   | Peptic ulcer             | Iraq    | 2012 | Case-control      | United States | 1 1 1 1 0 1 |
| 359166   | Peptic ulcer             | Denmark | 2016 | Prospective cohort | United States | 0 0 0 1 0 0 |
| 350659   | Peripheral artery disease| United States | 2011 | Prospective cohort | United States | 0 0 0 1 0 1 |
| 359221   | Peripheral artery disease| Canada   | 2010 | Prospective cohort | United States | 0 0 0 1 0 0 |
| 359223   | Peripheral artery disease| Australia | 2010 | Prospective cohort | United States | 1 0 0 1 1 0 |
| 369290   | Peripheral artery disease| Greece  | 1989 | Case-control      | United States | 0 0 0 1 0 1 |
| 462792   | Peripheral artery disease| Australia | 2019 | Cohort             | United States | 0 0 0 1 0 0 |
| 501896   | Peripheral artery disease| United States | 2019 | Cohort             | United States | 0 0 0 1 0 0 |
| 261500   | Rheumatoid Arthritis     | United States | 2006 | Prospective cohort | United States | 0 0 0 1 0 1 |
| 261510   | Rheumatoid Arthritis     | Finland | 1993 | Prospective cohort | Finland      | 1 1 0 1 0 1 |
| 350653   | Rheumatoid Arthritis     | Sweden  | 2013 | Prospective cohort | Sweden       | 1 1 1 1 1 1 |
| 353080   | Rheumatoid Arthritis     | Spain, Italy | 2015 | Nested case-control | Spain, Italy | 1 1 1 1 0 1 |
| 502082   | Rheumatoid Arthritis     | United States | 2020 | case-control      | United States | 1 1 1 1 0 0 |
| 502084   | Rheumatoid Arthritis     | United States | 2019 | Cohort             | United States | 0 0 0 0 1 0 |
| 309835   | Stomach cancer           | United States | 1997 | Case-control      | United States | 0 0 0 0 0 0 |
| 328266   | Stomach cancer           | Taiwan  | 1998 | Prospective cohort | Taiwan      | 1 0 0 0 0 0 |
| 339695   | Stomach cancer           | United States | 1991 | Prospective cohort | United States | 1 1 0 1 0 1 |
| 339697   | Stomach cancer           | China   | 1996 | Case-control      | United States | 1 0 0 1 0 0 |
| 340513   | Stomach cancer           | Uruguay | 1998 | Case-control      | Uruguay      | 0 0 0 1 0 1 |
| 340528   | Stomach cancer           | Russia  | 2000 | Case-control      | Russia       | 1 0 0 1 0 1 |
| 340554   | Stomach cancer           | Japan   | 1992 | Case-control      | Japan        | 1 0 0 1 0 1 |
| 340578   | Stomach cancer           | China   | 1994 | Nested case-control | China       | 1 0 0 1 0 1 |
| 340582   | Stomach cancer           | United States | 2002 | Prospective cohort | United States | 1 1 0 1 0 0 |
| 340582   | Stomach cancer           | United States | 2002 | Prospective cohort | United States | 0 0 0 1 0 0 |
| 343580   | Stomach cancer           | Canada  | 1995 | Case-control      | Canada       | 1 1 1 1 0 0 |
| 347810   | Stomach cancer           | Japan   | 2005 | Prospective cohort | Japan        | 1 1 0 1 0 0 |
| Study ID | Disease Type | First Name | Year | Study Design | Country/Region | Age at Collected | Age at Follow-up | Sex | Age | BMI | Smoking | Alcohol | Physical Activity |
|----------|--------------|------------|------|--------------|----------------|-----------------|-----------------|-----|-----|-----|---------|---------|-------------------|
| 347810   | Stomach Cancer | Fujino     | 2005 | Prospective cohort | Japan | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 502130   | Stomach Cancer | Mezzoiuso  | 2021 | Prospective cohort | Italy | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 502141   | Stomach Cancer | Zhang      | 2021 | Case-control | China | 1 | 1 | 0 | 1 | 0 | 0 | 0 |
| 122237   | Stroke        | Okada      | 1976 | Prospective cohort | Japan | 1 | 1 | 1 | 1 | 0 | 1 | 0 |
| 155207   | Stroke        | Chiuve     | 2008 | Prospective cohort | United States | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 165539   | Stroke        | Jacobs     | 1999 | Prospective cohort | United States, Finland, Netherlands, Italy, Croatia, Serbia, Greece, Japan | 1 | 0 | 0 | 1 | 0 | 1 | 0 |
| 174238   | Stroke        | Doll       | 2004 | Prospective cohort | United Kingdom | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 193978   | Stroke        | Yamada     | 2003 | Prospective cohort | Japan | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 298316   | Stroke        | Longstreth | 1992 | Case-control | United States | 1 | 0 | 0 | 1 | 0 | 1 | 0 |
| 324092   | Stroke        | Klatsky    | 2002 | Prospective cohort | United States | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 328259   | Stroke        | Nilsson    | 2001 | Prospective cohort | Sweden | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 328460   | Stroke        | Kono       | 1985 | Prospective cohort | Japan | 1 | 1 | 0 | 1 | 0 | 1 | 0 |
| 330677   | Stroke        | Kelly      | 2008 | Prospective cohort | China | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 330932   | Stroke        | Lam        | 2007 | Prospective cohort | China | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| 331371   | Stroke        | Iso        | 2005 | Prospective cohort | Japan | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 331705   | Stroke        | Lawlor     | 2008 | Prospective cohort | Republic of Korea | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 331710   | Stroke        | Ueshima    | 2004 | Prospective cohort | Japan | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 332100   | Stroke        | Mannami    | 2004 | Prospective cohort | Japan | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 332100   | Stroke        | Mannami    | 2004 | Prospective cohort | Japan | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 332104   | Stroke        | Shaper     | 2003 | Prospective cohort | United Kingdom | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 334028   | Stroke        | Kawachi    | 1993 | Prospective cohort | United States | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 334410   | Stroke        | Kuller     | 1991 | Prospective cohort | United States | 1 | 1 | 0 | 1 | 0 | 0 | 0 |
| 334731   | Stroke        | Hart       | 1999 | Prospective cohort | United Kingdom | 1 | 1 | 0 | 1 | 0 | 0 | 0 |
| 334814   | Stroke        | Kondo      | 2011 | Prospective cohort | Japan | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 334967   | Stroke        | Fuller     | 1983 | Prospective cohort | United Kingdom | 1 | 1 | 0 | 1 | 0 | 0 | 0 |
| 335266   | Stroke        | Molshatzki | 2013 | Prospective cohort | Israel | 1 | 1 | 0 | 1 | 0 | 0 | 0 |
| 335914   | Stroke        | Honjo      | 2009 | Pooled prospective cohort | Japan | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 336216   | Stroke        | Thun       | 2013 | Pooled prospective cohort | United States | 1 | 1 | 1 | 1 | 0 | 1 | 0 |
| 336216   | Stroke        | Thun       | 2013 | Pooled prospective cohort | United States | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 336216   | Stroke        | Thun       | 2013 | Pooled prospective cohort | United States | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| Study ID  | First Name | Last Name | Year | Study Type | Country                   | C | R | F | I | A | O |
|-----------|------------|-----------|------|------------|---------------------------|---|---|---|---|---|---|
| 336216    | Stroke     | Thun      | 2013 | Pooled prospective cohort | United States            | 1 | 0 | 0 | 0 | 0 | 0 |
| 336319    | Stroke     | Jamrozik   | 2018 | Pooled prospective cohort | Australia                | 0 | 0 | 0 | 1 | 1 | 0 |
| 336319    | Stroke     | Jamrozik   | 2018 | Pooled prospective cohort | Australia                | 0 | 0 | 0 | 1 | 1 | 1 |
| 336801    | Stroke     | Woodward   | 2005 | Pooled prospective cohort | Multi-country            | 1 | 1 | 1 | 1 | 0 | 1 |
| 343297    | Stroke     | Shaper     | 1991 | Prospective cohort        | United Kingdom           | 1 | 1 | 0 | 1 | 0 | 0 |
| 343300    | Stroke     | Anderson   | 2004 | Case-control              | Australia, New Zealand   | 0 | 0 | 0 | 1 | 0 | 1 |
| 343306    | Stroke     | Kenfield   | 2008 | Prospective cohort        | United States            | 1 | 1 | 0 | 1 | 0 | 1 |
| 343582    | Stroke     | Lam       | 2001 | Case-control              | China                    | 1 | 0 | 0 | 1 | 1 | 0 |
| 343647    | Stroke     | Doll       | 1976 | Prospective cohort        | United Kingdom           | 1 | 1 | 0 | 1 | 1 | 0 |
| 344345    | Stroke     | Wang      | 2001 | Prospective cohort        | China                    | 1 | 1 | 1 | 1 | 1 | 1 |
| 344359    | Stroke     | Colditz    | 1988 | Prospective cohort        | United States            | 0 | 0 | 0 | 1 | 0 | 0 |
| 344360    | Stroke     | Wolf      | 1988 | Prospective cohort        | United States            | 1 | 0 | 0 | 1 | 0 | 0 |
| 344362    | Stroke     | Ostfield   | 1974 | Prospective cohort        | United States            | 1 | 1 | 1 | 1 | 1 | 1 |
| 350743    | Stroke     | Bonita     | 1986 | Case-control              | New Zealand              | 1 | 1 | 0 | 1 | 0 | 1 |
| 350743    | Stroke     | Bonita     | 1986 | Case-control              | New Zealand              | 1 | 1 | 0 | 1 | 0 | 0 |
| 350747    | Stroke     | Yamaura    | 2001 | Case-control              | Japan                    | 1 | 1 | 1 | 1 | 0 | 0 |
| 350747    | Stroke     | Yamaura    | 2001 | Case-control              | Japan                    | 1 | 1 | 1 | 1 | 0 | 1 |
| 350749    | Stroke     | Kurth      | 2003 | Prospective cohort        | United States            | 1 | 0 | 0 | 0 | 0 | 1 |
| 350753    | Stroke     | Lindbohm   | 2016 | Prospective cohort        | Finland                  | 0 | 0 | 0 | 1 | 0 | 1 |
| 350757    | Stroke     | Xu         | 2013 | Prospective cohort        | China                    | 0 | 0 | 0 | 1 | 1 | 0 |
| 356591    | Stroke     | Hippisley-Cox | 2013 | Prospective cohort        | United Kingdom           | 0 | 0 | 0 | 1 | 0 | 1 |
| 357417    | Stroke     | Bonita     | 1999 | Case-control              | New Zealand              | 1 | 1 | 0 | 1 | 0 | 0 |
| 357431    | Stroke     | Gill       | 1989 | Case-control              | United Kingdom           | 0 | 0 | 0 | 1 | 0 | 1 |
| 357435    | Stroke     | Hajat      | 2004 | Case-control              | United Kingdom           | 1 | 0 | 0 | 1 | 0 | 1 |
| ID    | Study Type       | Year | Country                  | Case-control | 1 | 0 | 0 | 1 | 0 | 1 |
|-------|------------------|------|--------------------------|---------------|---|---|---|---|---|---|
| 357445 Stroke Jamrozik 1994 | Case-control | Australia | 1 | 0 | 0 | 1 | 0 | 1 |
| 358462 Stroke Thrift 1999 | Case-control | Australia | 0 | 0 | 0 | 1 | 0 | 1 |
| 358466 Stroke Markidan 2018 | Case-control | United States | 0 | 0 | 0 | 1 | 0 | 0 |
| 358470 Stroke Song 2005 | Case-control | Republic of Korea | 1 | 1 | 1 | 1 | 0 | 0 |
| 358476 Stroke Javela 1993 | Case-control | Finland | 1 | 0 | 0 | 1 | 0 | 1 |
| 358506 Stroke Bonita 1986 | Case-control | New Zealand | 1 | 1 | 1 | 1 | 0 | 0 |
| 358540 Stroke Hannaford 1994 | Nested case-control | United States | 1 | 0 | 0 | 1 | 0 | 1 |
| 358652 Stroke Carrieri 1994 | Case-control | Italy | 0 | 0 | 0 | 1 | 0 | 1 |
| 412060 Stroke Ueshima 2004 | Prospective cohort | Japan | 0 | 0 | 0 | 1 | 0 | 0 |
| 429295 Stroke Lu 2008 | Prospective cohort | Sweden | 0 | 0 | 0 | 1 | 0 | 0 |
| 432350 Stroke Zhu 2019 | Prospective cohort | China | 0 | 0 | 0 | 1 | 0 | 0 |
| 501860 Stroke Rautalin 2020 | Prospective cohort | Finland | 1 | 1 | 1 | 1 | 1 | 0 |
| 501896 Stroke Ding 2019 | Prospective cohort | United States | 0 | 0 | 0 | 1 | 0 | 0 |
| 501942 Stroke Sato 2021 | Prospective cohort | Japan | 0 | 0 | 0 | 1 | 1 | 0 |
| 501943 Stroke Zhang 2021 | Prospective cohort | United Kingdom | 0 | 0 | 0 | 1 | 0 | 0 |
| 502077 Stroke Jee 2019 | Prospective cohort | Republic of Korea | 1 | 1 | 1 | 1 | 0 | 1 |
| 502248 Stroke Peters 2020 | Prospective cohort | United Kingdom | 0 | 0 | 0 | 1 | 0 | 1 |
| 502250 Stroke Oshunbade 2020 | Prospective cohort | United States | 1 | 0 | 0 | 1 | 0 | 0 |
| 173863 Tuberculosis Doll 1994 | Prospective cohort | United Kingdom | 1 | 0 | 0 | 0 | 0 | 1 |
| 236195 Tuberculosis Liu 1998 | Case-control | China | 1 | 1 | 1 | 1 | 0 | 0 |
| 298335 Tuberculosis Crampin 2004 | Case-control | Malawi | 1 | 0 | 0 | 1 | 0 | 1 |
| 298340 Tuberculosis Baskin 1994 | Case-control | United States | 1 | 1 | 1 | 1 | 0 | 1 |
| 327906 Tuberculosis Wen 2010 | Prospective cohort | Taiwan | 0 | 0 | 0 | 1 | 0 | 1 |
| 327949 Tuberculosis Lin 2009 | Prospective cohort | Taiwan | 0 | 0 | 0 | 1 | 0 | 0 |
| 327956 Tuberculosis Jee 2009 | Prospective cohort | Republic of Korea | 1 | 0 | 0 | 1 | 0 | 0 |
| 343383 Tuberculosis Anderson 1997 | Case-control | United States | 1 | 0 | 0 | 1 | 0 | 1 |
| 343582 Tuberculosis Lam 2001 | Case-control | China | 1 | 0 | 0 | 1 | 0 | 1 |
| 343582 Tuberculosis Lam 2001 | Case-control | China | 1 | 0 | 0 | 1 | 1 | 1 |
| 348044 Tuberculosis Ariyothai 2004 | Case-control | Thailand | 1 | 1 | 1 | 1 | 0 | 1 |
| 348046 Tuberculosis Kolappan 2002 | Nested case-control | India | 1 | 1 | 1 | 1 | 0 | 1 |
| 348053 Tuberculosis Leung 2004 | Prospective cohort | China | 0 | 0 | 0 | 1 | 1 | 1 |
| 359225 Tuberculosis Dhamgaye 2008 | Case-control | India | 1 | 1 | 0 | 1 | 0 | 1 |
| Study Code | Topic          | First Name | Last Name | Year  | Study Type         | Country          | Results |
|-----------|---------------|------------|-----------|-------|--------------------|-------------------|---------|
| 359228    | Tuberculosis  | Marahatta  | 2015      | Case-control | Nepal             | 0 1 1 1 1 0 1  |
| 359230    | Tuberculosis  | Pednekar   | 2007      | Prospective cohort | India             | 1 0 0 1 0 0 0  |
| 359273    | Tuberculosis  | Smith      | 2015      | Nested case-control | United States     | 1 0 0 0 0 0 1  |
| 369826    | Tuberculosis  | Alavi      | 2012      | Case-control | Iran              | 0 0 0 1 1 1 1  |
| 501926    | Tuberculosis  | Li         | 2021      | Prospective cohort study | China | 0 0 0 0 0 0 1  |
| 501936    | Tuberculosis  | Tewatia    | 2020      | Case-control | India             | 1 1 0 1 0 1 0 1 |
| 230548    | Type 2 diabetes | Sawada    | 2003      | Prospective cohort | Japan             | 0 0 0 1 0 0 1  |
| 236197    | Type 2 diabetes | Pirie     | 2013      | Prospective cohort | United Kingdom | 1 1 1 1 1 0 1  |
| 255434    | Type 2 diabetes | Doi       | 2012      | Prospective cohort | Japan             | 0 0 0 1 0 0 0  |
| 255463    | Type 2 diabetes | Waki      | 2005      | Prospective cohort | Japan             | 0 0 0 1 0 0 0  |
| 309584    | Type 2 diabetes | Teratini  | 2012      | Prospective cohort | Japan             | 0 0 0 1 0 0 1  |
| 309588    | Type 2 diabetes | Kawakami  | 1997      | Prospective cohort | Japan             | 0 0 0 1 0 0 1  |
| 309592    | Type 2 diabetes | Hu        | 2001      | Prospective cohort | United States     | 0 0 0 0 0 0 1  |
| 309610    | Type 2 diabetes | Jee       | 2010      | Prospective cohort | Republic of Korea | 0 0 0 1 0 0 1  |
| 348079    | Type 2 diabetes | Rimm     | 1995      | Prospective cohort | United States     | 0 0 0 1 0 0 1  |
| 348081    | Type 2 diabetes | Uchimoto  | 1999      | Prospective cohort | Japan             | 0 0 0 1 0 0 1  |
| 348083    | Type 2 diabetes | Manson   | 2000      | Prospective cohort | United States     | 0 0 0 1 0 0 1  |
| 348085    | Type 2 diabetes | Nakanishi | 2000      | Prospective cohort | Japan             | 0 0 0 1 0 0 1  |
| 348088    | Type 2 diabetes | Wannamethe | 2001      | Prospective cohort | England, United Kingdom | 1 0 0 1 0 0 1  |
| 348091    | Type 2 diabetes | Carlson  | 2004      | Prospective cohort | Norway            | 1 0 0 1 0 0 0  |
| 348100    | Type 2 diabetes | Sairenchi | 2004      | Prospective cohort | Japan             | 0 0 0 1 0 0 0  |
| 348105    | Type 2 diabetes | Patja     | 2005      | Prospective cohort | Finland           | 0 0 0 1 0 0 0  |
| 348108    | Type 2 diabetes | Meisinger | 2006      | Prospective cohort | Germany           | 0 0 0 1 0 0 0  |
| 348112    | Type 2 diabetes | Park      | 2008      | Retrospective cohort | Republic of Korea | 1 1 0 1 0 0 1  |
| 356075    | Type 2 diabetes | Will      | 2001      | Prospective cohort | United States     | 0 0 0 1 0 0 0  |
| 356095    | Type 2 diabetes | Akter     | 2015      | Prospective cohort | Japan             | 0 0 0 1 0 0 1  |
| 356097    | Type 2 diabetes | Hilawe   | 2015      | Prospective cohort | Japan             | 0 0 0 1 0 0 1  |
| 356099    | Type 2 diabetes | Hou       | 2016      | Case-control | China             | 0 0 0 1 0 0 0  |
| 356101    | Type 2 diabetes | Rasouli  | 2016      | Case-control | Sweden            | 1 0 0 1 0 0 1  |
| 356103    | Type 2 diabetes | Lv       | 2017      | Prospective cohort | China             | 0 0 0 1 0 0 0  |
| 356105    | Type 2 diabetes | Consortium | 2014    | Case-cohort | Denmark, France, Germany, Italy | 0 0 0 1 0 0 0  |
Section 4: The dose-response RR curves and their 95% uncertainty interval for all smoking-outcome pairs

Section 4.1: Five-star smoking-outcome pairs

Laryngeal cancer

Aortic aneurysm (reference age group: 55-59)
Peripheral artery disease (reference age group: 60-64)

Lung cancer

Other pharynx cancer

Section 4.2: Four-star smoking-outcome pairs

Pancreatic cancer
COPD

Lower respiratory infection

Section 4.3: Three-star smoking-outcome pairs

Bladder cancer

Stomach cancer
Esophageal cancer

Ischemic heart disease (reference age group: 55-59)

Peptic ulcer disease

Stroke (reference age group: 55-59)
Cervical cancer

Macular degeneration

Cataracts

Rheumatoid arthritis
Parkinson’s disease (protective effects)

Section 4.4: Two-star smoking-outcome pairs

Nasopharyngeal cancer

Alzheimer’s and other dementia

Gallbladder disease
Lip and oral cavity cancer

Atrial fibrillation and flutter (reference age group: 55-59)

Breast cancer

Section 4.5: One-star smoking-outcome pairs

Leukemia
Section 5: Supplementary methods

Section 5.1: The scope of the systematic literature review

Since GBD 2016 we have performed systematic review and meta-analysis of all case-control and prospective cohort studies reporting a relative risk (RR), hazard ratio (HR), or odds ratio (OR) for any risk-outcome pair studied in GBD 2016. In GBD 2019, we had included 36 risk-outcome pairs for smoking. Studies were included if they reported a categorical or continuous dose for smoked tobacco consumption (pack-years or cigarettes per day) as well as uncertainty measures of the estimated risk, and the population under study was the general population. Studies were excluded if they used cross-sectional or retrospective cohort design or if the study was conducted among specific high-risk populations (e.g., people with type 2 diabetes or drug users, etc.).

In GBD 2020, we undertook an effort to improve our RR curves by refining our search strings to capture a larger number of studies than was not identified by previous search strings. Studies published between 01/01/1970 and 31/05/2022 were reviewed. Of those articles captured, prospective cohort and case-control studies were included if they reported the effect sizes (RR, HR, or OR) of an association between a continuous or categorical dose for smoked tobacco consumption and a GBD outcome with uncertainty. Information on study design, confounders controlled for, sample representativeness, and measurement of exposure and outcomes was also extracted.

In GBD 2020, we also employed a new approach to produce age-specific RR curves for CVD outcomes, which involves estimating an age pattern of excess risk (i.e., RR-1) of smoking for CVD outcomes. To estimate the age pattern, we performed a systematic review of literature on risk of smoking for five CVD outcomes, namely, ischemic heart disease, stroke, atrial fibrillation and flutter, aortic aneurysm, and peripheral arterial disease. We developed a search string to search for articles reporting any association of binary smoking status (i.e., current, former, and ever smokers) on the five CVD outcomes from 01/01/1970 to 05/01/2019 and only included studies reporting age-specific risk (RR, OR, HR) of smoking status, which is different from the estimation of dose-response risk of smoking for which we only included studies reporting dose-specific risk. Information on study design, confounders controlled for, sample representativeness, type of exposure (i.e., current, former, and ever smoker), measurement of exposure and outcomes was also extracted for bias adjustment. Table 2 summarizes the number of studies included for estimating the dose-response risk curve and the age pattern of risk for the CVD outcomes.
Table 5: Data inputs for relative risks for smoked tobacco use

|                                | Total unique sources | Total sources* | Total observations |
|--------------------------------|----------------------|----------------|--------------------|
| Dose-response risk             | 559                  | 634            | 2575               |
| Age pattern of risk for CVD outcomes | 159                | 244            | 1318               |

* The total number of source-outcome combinations included in the relative risk models, accounting for sources that reported relative risks for multiple outcomes.

Section 5.2: Detailed methods for estimating the dose-response risk curves of the 36 health outcomes

The same risk-outcome pairs from GBD 2019 were used for GBD 2020: tuberculosis, lower respiratory tract infections, esophageal cancer, stomach cancer, bladder cancer, liver cancer, laryngeal cancer, lung cancer, breast cancer, cervical cancer, colorectal cancer, lip and oral cancer, nasopharyngeal cancer, other pharyngeal cancer, pancreatic cancer, kidney cancer, leukemia, ischemic heart disease, ischemic stroke, hemorrhagic stroke, subarachnoid hemorrhage, atrial fibrillation and flutter, aortic aneurysm, peripheral arterial disease, chronic obstructive pulmonary disease, other chronic respiratory diseases, asthma, peptic ulcer disease, gallbladder and biliary tract diseases, Alzheimer disease and other dementias, Parkinson disease (protective), multiple sclerosis, type 2 diabetes, rheumatoid arthritis, low back pain, cataracts, macular degeneration, and fracture.

For GBD 2020, the risk of all risk outcome pairs is evaluated by continuous smoking exposure level (i.e., pack-year, cigarettes per smoker per day and years since cessation), expect for fracture, whose risk is evaluated by binary smoking exposure (i.e., smoker vs non-smoker/never smoker).

Section 5.2.1: Dose-response risk curves

Since GBD 2016, we had used the studies identified through the systematic review to estimate dose-response risk of smoking on related health outcomes, using DisMod ODE. We chose DisMod ODE rather than a conventional mixed effects meta-regression because of its ability to estimate nonparametric splines over doses (i.e., there is usually a non-linear relationship between smoking exposure level and outcome risk) and incorporate heterogeneous doses through dose-integration (i.e., most studies report smoking exposure level categorically in wide ranges and DisMod ODE can estimate risk of specific exposure level when categories overlap across studies, through an integration step).

For GBD 2020, we used the studies identified through the updated systematic review to estimate new dose-response curves using MR-BRT for all outcomes. Importantly, this new method takes into account the risk of biases in the RR estimation by selecting and including important covariates of the risk estimates in the model (e.g., measurement of exposure and outcomes, representativeness, and adjustment level of the risk estimates) and incorporates unexplained between-study heterogeneity into the uncertainty of the RR estimates. The results of the meta-regression were used to estimate a non-parametric curve for all doses between zero and 100 pack-years or cigarettes per smoker per day and their corresponding relative risks. For all outcomes, we assumed the relative risk was the same for both sexes, except for breast cancer, cervical cancer, and prostate cancer, which were assumed to apply only to females or to male.

For data-sparse risk-outcome pairs, we implemented the Fisher Scoring correction to the heterogeneity parameter. When data are sparse, the between-study heterogeneity parameter estimate may be 0, simply due to lack of data. The Fisher Scoring correction uses a quantile of gamma, which is sensitive to the number of studies, study design, and reported uncertainty.
We have also added methodology that can detect and flag publication bias. The approach is based on the classic Egger’s Regression strategy, which is applied to the residuals in our model. In the current implementation, we do not correct for publication bias, but flag the risk-outcome pairs where the risk for publication bias is significant.

In the table below, we list each risk outcome pair that is updated in GBD 2020 along with several of the key modelling parameters and results. The formulation for MR-BRT is described in detail in Zheng et al. (2021)\textsuperscript{28}.

Table 6: MR-BRT model specifications by risk-outcome pair

| Risk-outcome                  | Type of risk | Spline degree, # interior knots | Priors & constraints                                      |
|-------------------------------|--------------|---------------------------------|-----------------------------------------------------------|
| Atrial fibrillation and flutter| Continuous, Harmful | Quadratic, 3 I knots            | Monotonic increasing, right linear tail, Gaussian max derivative prior on the right tail 
(0, 0.001)                                                    |
| Alzheimer and other dementia  | Continuous, Harmful | Quadratic, 3 I knots            | Monotonic increasing, right linear tail, Gaussian max derivative prior on the right tail 
(0, 0.001)                                                    |
| Aortic aneurism                | Continuous, Harmful | Quadratic, 3 I knots            | Monotonic increasing, right linear tail, Gaussian max derivative prior on the right tail 
(0, 0.001)                                                    |
| Asthma                         | Continuous, Harmful | Quadratic, 3 I knots            | Monotonic increasing, right linear tail, Gaussian max derivative prior on the right tail 
(0, 0.001)                                                    |
| Bladder cancer                 | Continuous, Harmful | Quadratic, 3 I knots            | Monotonic increasing, right linear tail, Gaussian max derivative prior on the right tail 
(0, 0.001)                                                    |
| Breast cancer                  | Continuous, Harmful | Quadratic, 3 I knots            | Monotonic increasing, right linear tail, Gaussian max derivative prior on the right tail 
(0, 0.001)                                                    |
| Cataracts                      | Continuous, Harmful | Quadratic, 3 I knots            | Monotonic increasing, right linear tail, Gaussian max derivative prior on the right tail 
(0, 0.001)                                                    |
| Cervical cancer                | Continuous, Harmful | Quadratic, 3 I knots            | Monotonic increasing, right linear tail, Gaussian max derivative prior on the right tail 
(0, 0.001)                                                    |
| Colon and rectum cancer        | Continuous, Harmful | Quadratic, 3 I knots            | Monotonic increasing, right linear tail, Gaussian max derivative prior on the right tail 
(0, 0.001)                                                    |
| COPD                           | Continuous, Harmful | Quadratic, 3 I knots            | Monotonic increasing, right linear tail, Gaussian max derivative prior on the right tail 
(0, 0.001)                                                    |
| Type 2 diabetes                | Continuous, Harmful | Quadratic, 3 I knots            | Monotonic increasing, right linear tail, Gaussian max derivative prior on the right tail 
(0, 0.001)                                                    |
| Esophageal cancer              | Continuous, Harmful | Quadratic, 3 I knots            | Monotonic increasing, right linear tail, Gaussian max derivative prior on the right tail 
(0, 0.001)                                                    |
| Gallbladder diseases           | Continuous, Harmful | Quadratic, 3 I knots            | Monotonic increasing, right linear tail, Gaussian max derivative prior on the right tail 
(0, 0.001)                                                    |
| Fracture (hip and non-hip)     | Dichotomous, Harmful | N/A                            | N/A                                                        |
| Condition                          | Type            | Distribution        | Prior Settings                                                                 |
|-----------------------------------|-----------------|---------------------|--------------------------------------------------------------------------------|
| Ischemic health disease           | Continuous, Harmful | Quadratic, 3 I knots | Monotonic increasing, right linear tail, Gaussian max derivative prior on the right tail (0, 0.001) |
| Kidney cancer                     | Continuous, Harmful | Quadratic, 3 I knots | Monotonic increasing, right linear tail, Gaussian max derivative prior on the right tail (0, 0.001) |
| Laryngeal cancer                  | Continuous, Harmful | Quadratic, 3 I knots | Monotonic increasing, right linear tail, Gaussian max derivative prior on the right tail (0, 0.001) |
| Lower back pain                   | Continuous, Harmful | Quadratic, 3 I knots | Monotonic increasing, right linear tail, Gaussian max derivative prior on the right tail (0, 0.001) |
| Leukemia                          | Continuous, Harmful | Quadratic, 3 I knots | Monotonic increasing, right linear tail, Gaussian max derivative prior on the right tail (0, 0.001) |
| Lip oral cavity cancer            | Continuous, Harmful | Quadratic, 3 I knots | Monotonic increasing, right linear tail, Gaussian max derivative prior on the right tail (0, 0.001) |
| Liver cancer                      | Continuous, Harmful | Quadratic, 3 I knots | Monotonic increasing, right linear tail, Gaussian max derivative prior on the right tail (0, 0.001) |
| Lower respiratory infections      | Continuous, Harmful | Quadratic, 3 I knots | Monotonic increasing, right linear tail, Gaussian max derivative prior on the right tail (0, 0.001) |
| Lung cancer                       | Continuous, Harmful | Quadratic, 3 I knots | Monotonic increasing, right linear tail, Gaussian max derivative prior on the right tail (0, 0.001) |
| Macular degeneration              | Continuous, Harmful | Quadratic, 3 I knots | Monotonic increasing, right linear tail, Gaussian max derivative prior on the right tail (0, 0.001) |
| Multiple sclerosis                | Continuous, Harmful | Quadratic, 3 I knots | Monotonic increasing, right linear tail, Gaussian max derivative prior on the right tail (0, 0.001) |
| Nasopharyngeal cancer             | Continuous, Harmful | Quadratic, 3 I knots | Monotonic increasing, right linear tail, Gaussian max derivative prior on the right tail (0, 0.001) |
| Other pharynx cancer              | Continuous, Harmful | Quadratic, 3 I knots | Monotonic increasing, right linear tail, Gaussian max derivative prior on the right tail (0, 0.001) |
| Pancreatic cancer                 | Continuous, Harmful | Quadratic, 3 I knots | Monotonic increasing, right linear tail, Gaussian max derivative prior on the right tail (0, 0.001) |
| Parkinson                         | Continuous, Protective | Quadratic, 3 I knots | Monotonic decreasing, right linear tail, Gaussian max derivative prior on the right tail (0, 0.001) |
| Peptic ulcer                      | Continuous, Harmful | Quadratic, 3 I knots | Monotonic increasing, right linear tail, Gaussian max derivative prior on the right tail (0, 0.001) |
| Peripheral artery disease         | Continuous, Harmful | Quadratic, 3 I knots | Monotonic increasing, right linear tail, Gaussian max derivative prior on the right tail (0, 0.001) |
| Risk-outcome                                                                 | Unit of risk | Selected bias covariates | Mean gamma solution |
|-------------------------------------------------------------------------------|--------------|--------------------------|---------------------|
| Atrial fibrillation and flutter                                               | cigarettes per day | None                      | 0.000               |
| Alzheimer and other dementia                                                 | cigarettes per day | None                      | 0.054               |
| Aortic aneurism                                                              | cigarettes per day | None                      | 0.000               |
| Asthma                                                                       | cigarettes per day | None                      | 1.651               |
| Bladder cancer                                                               | pack-year    | None                      | 0.052               |
| Breast cancer                                                                | pack-year    | cv_subpopulation          | 0.000               |
| Cataracts                                                                    | cigarettes per day | None                      | 0.000               |
| Cervical cancer                                                              | pack-year    | None                      | 0.000               |
| Colon and rectum cancer                                                      | pack-year    | None                      | 0.090               |
| COPD                                                                         | pack-year    | cv_older, cv_adj_L1       | 0.022               |
| Type 2 diabetes                                                             | cigarettes per day | cv_subpopulation          | 0.055               |
| Esophageal cancer                                                            | pack-year    | None                      | 0.106               |
| Gallbladder diseases                                                          | cigarettes per day | cv_adj_L0                 | 0.000               |
| Fracture (hip and non-hip)                                                   | Binary smoking status | cv_subpopulation, cv_risk_measure, cv_adj_L2 | 0.032               |

Table 7: MR BRT estimated parameters and bias covariates by risk-outcome pair
| Condition                                      | Exposure                                      | Bias Covariates                     | p-value |
|-----------------------------------------------|-----------------------------------------------|-------------------------------------|---------|
| Ischemic health disease                       | cigarettes per day                            | cv_adj_L2, cv_subpopulation, cv_older | 0.190   |
| Kidney cancer                                 | pack-year                                     | None                                | 0.078   |
| Laryngeal cancer                              | pack-year                                     | None                                | 0.000   |
| Lower back pain                               | cigarettes per day                            | None                                | 0.000   |
| Leukemia                                      | pack-year                                     | None                                | 0.000   |
| Lip oral cavity cancer                        | pack-year                                     | cv_adj_L1                           | 0.158   |
| Liver cancer                                  | pack-year                                     | None                                | 0.429   |
| Lower respiratory infection                   | cigarettes per day                            | None                                | 0.000   |
| Lung cancer                                   | pack-year                                     | cv_adj_L1, cv_adj_L0, cv_adj_L2     | 0.063   |
| Macular degeneration                          | cigarettes per day                            | None                                | 0.000   |
| Multiple sclerosis                            | cigarettes per day                            | None                                | 0.000   |
| Nasopharyngeal cancer                         | pack-year                                     | cv_adj_L0                           | 0.065   |
| Other pharynx cancer                          | pack-year                                     | None                                | 0.000   |
| Pancreatic cancer                             | pack-year                                     | None                                | 0.000   |
| Parkinson                                     | cigarettes per day                            | cv_adj_L2, cv_outcome_selfreport    | 0.000   |
| Peptic ulcer disease                          | cigarettes per day                            | cv_adj_L1, cv_subpopulation         | 0.000   |
| Peripheral artery disease                     | cigarettes per day                            | cv_subpopulation                    | 0.000   |
| Prostate cancer                               | cigarettes per day                            | None                                | 0.170   |
| Rheumatoid arthritis                          | cigarettes per day                            | None                                | 0.000   |
| Stomach cancer                                | pack-year                                     | None                                | 0.000   |
| Stroke (ischemic stroke, hemorrhagic stroke,  | cigarettes per day                            | None                                | 0.146   |
| and subarachnoid hemorrhage)                  |                                              |                                     |         |
| Tuberculosis                                  | cigarettes per day                            | None                                | 0.038   |

† Definitions of bias covariates:
**cv_subpopulation**: 0 for risk estimates are likely generalizable to the general population because the sample was based on the general population with reasonable exclusions for pre-existing disease states; 1 for risk estimates of sub-groups such as high-risk groups

**cv_adj_L0, cv_adj_L1, cv_adj_L2**: cascading dummy variables for adjustment level of the risk estimates (i.e., how many confounders are adjusted for in the regression model for the risk estimate). There are four adjustment levels, namely, 1. no adjustment, 2. only adjusting for age and sex, 3. adjusting for age and sex and <= 3 other covariates, and 4. adjusting for age and sex and > 3 other covariates. If the adjustment level is 1, cv_adj_L0=1, cv_adj_L1=1, cv_adj_L2=1; if the adjustment level is 2, cv_adj_L0=1, cv_adj_L1=1, cv_adj_L2=0; if the adjustment level is 3, then cv_adj_L0=1, cv_adj_L1=0, cv_adj_L2=0; if the adjustment level is 4, then cv_adj_L0=0, cv_adj_L1=0, cv_adj_L2=0.

**cv_outcome_selfreport**: 0 for measurement of outcome based on assays, tests, or physician observation and 1 for self-report outcome.

**cv_older**: 0 if the population contains both young and old people; 1 if the population only contains old people.

**cv_non_smoker**: 0 if the unexposed group is never smoker; 1 if the unexposed group is non-smoker (never smoker and possible former smoker).

**cv_risk_measure**: 0 if the risk is reported as Relative Risk; 1 if the risk is reported as Odds Ratios or Hazard Ratios.

**Section 5.2.2: Age-specific dose-response risk curves for CVD outcomes**

For all non-CVD outcomes, we assumed the risk curve to be the same for all ages. However, the risk of smoking on CVD outcomes (i.e., stroke, ischemic heart disease, atrial fibrillation and flutter, aortic aneurysm, and peripheral arterial disease) is well known to attenuate with increasing age and thus we produced age-specific risk curves for all CVD outcomes. Previously, we used a linear relationship between age and log risk to adjust all RR data to a specific age group (e.g., 45-49). Then, we modelled the risk curve for each age group using the adjusted age-group specific data. This approach often produced curves with different shapes for different age groups and tended to underestimate the risk for older age groups since we set the log RR to be 0 for the terminal age group (e.g., 95+) in the linear function.

In GBD 2020, we adopted a new approach to produce the age-specific risk curves by producing an age pattern of smoking risk on CVD outcomes and adjusting the risk curve of the reference age group using the age pattern of risk to produce age-group specific risk curves. Briefly, we first estimated the reference dose-response risk of smoking for each CVD outcome using dose-specific RR data of each outcome regardless of the age group information. This step was the same with other non-CVD outcomes. Once we had the reference curve, we determined the age group of the reference curve by calculating the weighted mean age across all dose-specific RR data (weighted by 1/SE of each datum). For example, if the weighted mean age of all dose-specific RR data was 56.5, we determined the age group of the reference risk curve to be 55-59. For cohort studies, the mean age was calculated as mean age at baseline plus the mean/median years of follow-up (if only maximum years of follow-up is reported, we added half of the maximum years to the mean age at baseline). For the case-control studies, the mean age was just the reported mean age at baseline (in case the mean age is not reported, we used the midpoint of age range as the mean age instead). In the third step, we extracted age-group specific RR data and relevant bias covariates from literature identified in the systematic review mentioned above, and we used MR-BRT to model the age pattern of excess risk (i.e., RR-1) of smoking on CVD outcomes with age-group specific excess RR data of all CVD outcomes. In the final model, we included age as spline, random effects of study, and the bias covariates of exposure types (i.e., current, former, and ever smokers), which were selected by an algorithm described elsewhere. When predicting the age pattern of the excess risk of smoking on CVD outcomes using the fitted model, we did not include between study heterogeneity to reduce uncertainty in the prediction. Figure S1 below shows the estimated age pattern of excess risk of smoking on CVD along with its 95% uncertainty intervals. In the fourth step, we calculated the age attenuation factors (AF) of excess risk compared with the reference age group for each CVD outcome as ratio of the estimated excess risk of each age group to that of the reference age group. We did the calculation at the draw level to obtain 1000 draws of...
the AF for each age group. Figure S2 below shows the AF for stroke along with its 95% uncertainty intervals. Once we had the AF, in the last step, we adjusted the risk curve of the reference age group from step 1 using equation (1) to produce the age-group specific risk curves for each CVD outcome.

We did the age adjustment on draw level so that the uncertainty of the AF can be naturally incorporated in the final adjusted age-specific RR curves. Figure S3 shows the age AF adjusted age-group specific RR curves for stroke outcome.

Figure 2: estimated age pattern of excess risk of smoking on CVD outcomes

Note: The red points are trimmed by MR-BRT and the black points are included in the final model. The blue curve is the age trends of risk of smoking on CVD outcomes. The shaded area is the 95% of the age trends not accounting for between study heterogeneity. The whiskers around the data points are the age range of each reported estimate. The opacity of the data point indicates the inverse of standard error of the estimate, with more opaque data having smaller standard error.
Figure 3: age attenuation factors of excess risk of smoking on stroke compared with the reference age group
Figure 4: AF adjusted age-group specific RR curves for stroke, reference age group 55-59. The exposure is in units of cigarette-equivalents per smoker per day.

Section 6: Sensitivity analysis

Section 6.1: Testing sensitivity of trimming approach

Similar to our approach to evaluate the impact of the monotonicity constraint, we conducted another sensitivity analysis to evaluate the impact of our 10% trimming on the shape of the risk curves for each risk-outcome pair. Our final models involved trimming 10% of the data for each outcome to remove the likelihood of extreme data and reduce publication bias favoring extreme values. We ran preliminary models with the same model specifications as our final models, except for the 10% trimming, and compared the results of both sets of models. These results can be found below.
Figure 5: Results of model without 10% trimming
The figures below reflect the results of the model without trimming using the final model specificities for every risk-outcome pair. The first of each set of outcome plots presents the dose-response relative risk in log space, while the middle figure is the dose-response relative risk in linear space. The right-most figure reflects the residual cone for all of the data inputs in the risk-outcome pair. The reference exposure for all of these risk curves is the theoretical minimum risk exposure level, 0 cigarettes per day or 0 pack-years (depending on the outcome in question).

**COPD**

**Colon and Rectum Cancer**

**Cervical Cancer**

**Cataracts**
Atrial Fibrillation and Flutter

Alzheimer's and Other Dementia

Lung Cancer

Lower Respiratory Infections
Laryngeal Cancer

Kidney Cancer

Ischemic Heart Disease

Gallbladder Diseases
Esophageal Cancer

Diabetes

Tuberculosis

Stroke
Peptic Ulcer

Parkinson's Disease

Pancreatic Cancer

Other Pharynx Cancer
Section 6.2: Testing sensitivity of monotonicity constraints

We examined the impact of the monotonicity constraint on the shape of the risk curves for each risk-outcome pair to evaluate the sensitivity of our final model to the use of a monotonicity constraint. This constraint ensured that the mean risk curve was non-decreasing for risk-outcome pairs where the relationship is expected to be harmful and...
non-increasing for Parkinson’s disease-smoking pair. A preliminary model was run with the same inputs and model specifications as the final models but without the monotonicity constraint, and the results were compared to those of the final models. These results can be found below.

Figure 6: Results of model without monotonicity constraints
The figures below reflect the results of the model without monotonicity constrains using the final model specifications for every risk-outcome pair. The first of each set of outcome plots presents the dose-response relative risk in log space, while the middle figure is the dose-response relative risk in linear space. The right-most figure reflects the residual cone for all of the data inputs in the risk-outcome pair. The reference exposure for all of these risk curves is the theoretical minimum risk exposure level, 0 cigarettes per day or 0 pack-years (depending on the outcome in question).

COPD

Colon and Rectum Cancer

Cervical Cancer

Cataracts
Liver Cancer

Lip and Oral Cavity Cancer

Leukemia

Low Back Pain
Laryngeal Cancer

Kidney Cancer

Ischemic Heart Disease

Gallbladder Diseases
Esophageal Cancer

Diabetes

Tuberculosis

Stroke
Peptic Ulcer

Parkinson's Disease

Pancreatic Cancer

Other Pharynx Cancer
Section 7: Binary smoking-outcome pair (i.e., smoking-fracture)

Figure 7: Natural log of relative risk of smoking (current smoker vs. never-smoker) on fracture.

Note: This is a funnel plot that shows the natural log of relative risk on the x-axis and the estimated standard error (SE) of natural log of relative risk that includes both reported SE and between-study heterogeneity on the y-axis. Outliers are denoted using red x marks in the plot. The light green and dark green shade areas represent the 95% confidence intervals of the mean natural log of risk accounting for and not accounting for between study heterogeneity, respectively.
Figure 8: The forest plot of relative risk of smoking on fracture.
Note: The red estimates are trimmed by MR-BRT, the black estimates are included in the final model, and the blue estimate is the pooled relative risk estimate of smoking on fracture. The whiskers around the data points are the 95% confidence intervals of the risk estimates.

Section 8: Risk curve details
The associated cause, reference exposure group, alternative exposure group, and the effect size and standard error in log space for each study included in the dose-response curve estimates, excluding those used to develop the age-attenuation factor for cardiovascular curves without dose-response data, are listed below.

Table 8: Summary of data inputs

| Cause                     | NID    | Outlier flag | Reference exposure | Alternative exposure | Log relative risk | Log standard error |
|---------------------------|--------|--------------|--------------------|----------------------|-------------------|-------------------|
| afib_and_flutter          | 324155 | 0            | 0 cigarettes per day | 10 to 19 cigarettes per day | 0.405465         | 0.181973          |
| afib_and_flutter          | 324155 | 0            | 0 cigarettes per day | 10 to 19 cigarettes per day | 0.41211          | 0.163873          |
| afib_and_flutter          | 324155 | 0            | 0 cigarettes per day | 1 to 9 cigarettes per day | 0.438555         | 0.171165          |
| afib_and_flutter          | 324155 | 0            | 0 cigarettes per day | 20 to 30 cigarettes per day | 0.494696         | 0.331322          |
| afib_and_flutter          | 324155 | 0            | 0 cigarettes per day | 20 to 30 cigarettes per day | 0.518794         | 0.314322          |
| afib_and_flutter          | 324168 | 0            | 0 cigarettes per day | 1 to 9 cigarettes per day | 0.385262         | 0.218659          |
| afib_and_flutter          | 324168 | 0            | 0 cigarettes per day | 20 to 30 cigarettes per day | 0.457425         | 0.198592          |
| afib_and_flutter          | 350084 | 0            | 0 cigarettes per day | 0 to 10 cigarettes per day | 0.553885         | 0.230178          |
| afib_and_flutter          | 350084 | 0            | 0 cigarettes per day | 0 to 10 cigarettes per day | 0.553885         | 0.228712          |
| afib_and_flutter          | 350084 | 0            | 0 cigarettes per day | 20 to 30 cigarettes per day | 0.476234         | 0.264609          |
| afib_and_flutter          | 350084 | 0            | 0 cigarettes per day | 10 to 20 cigarettes per day | 0.198851         | 0.25092           |
| afib_and_flutter          | 350084 | 0            | 0 cigarettes per day | 10 to 20 cigarettes per day | 0.207014         | 0.244732          |
| afib_and_flutter          | 350084 | 0            | 0 cigarettes per day | 20 to 30 cigarettes per day | 0.451076         | 0.263226          |
| afib_and_flutter          | 350091 | 1            | 0 cigarettes per day | 1 to 15 cigarettes per day | -0.84397         | 0.443166          |
| afib_and_flutter          | 350091 | 0            | 0 cigarettes per day | 20 to 30 cigarettes per day | 0.019803         | 0.154812          |
| afib_and_flutter          | 357504 | 1            | 0 cigarettes per day | 1 to 14 cigarettes per day | 0.039221         | 0.07604           |
| afib_and_flutter          | 357504 | 0            | 0 cigarettes per day | 15 to 22.5 cigarettes per day | 0.262364         | 0.082418          |
| alzheimer_other_dementia  | 328492 | 0            | 0 cigarettes per day | 10 to 15 cigarettes per day | 0.029559         | 0.312067          |
| alzheimer_other_dementia  | 328492 | 0            | 0 cigarettes per day | 1 to 9 cigarettes per day | 0.824175         | 0.226011          |
| alzheimer_other_dementia  | 328517 | 0            | 0 cigarettes per day | 0 to 9 cigarettes per day | 0.076961         | 0.067555          |
| alzheimer_other_dementia  | 328517 | 0            | 0 cigarettes per day | 10 to 20 cigarettes per day | 0.29267          | 0.051401          |
| alzheimer_other_dementia  | 328517 | 0            | 0 cigarettes per day | 20 to 40 cigarettes per day | 0.314811         | 0.06331           |
| alzheimer_other_dementia  | 328517 | 0            | 0 cigarettes per day | 40 to 60 cigarettes per day | 0.698135         | 0.128186          |
| alzheimer_other_dementia  | 349159 | 0            | 0 cigarettes per day | 21 to 31.5 cigarettes per day | -0.10536        | 1.074263          |
| alzheimer_other_dementia  | 349159 | 0            | 0 cigarettes per day | 0 to 10 cigarettes per day | 0.198851         | 0.549933          |
| alzheimer_other_dementia  | 349159 | 0            | 0 cigarettes per day | 11 to 20 cigarettes per day | 0.29267          | 0.613006          |
| alzheimer_other_dementia  | 358834 | 0            | 0 cigarettes per day | 0 to 19 cigarettes per day | 0.788457         | 0.41744           |
| alzheimer_other_dementia  | 358834 | 0            | 0 cigarettes per day | 20 to 30 cigarettes per day | 0.993252         | 0.68972           |
| alzheimer_other_dementia  | 358836 | 0            | 0 cigarettes per day | 0 to 9 cigarettes per day | 0.14842          | 2.067206          |
| alzheimer_other_dementia  | 358836 | 0            | 0 cigarettes per day | 10 to 15 cigarettes per day | 1.477049         | 0.67736           |
| alzheimer_other_dementia  | 358838 | 1            | 0 cigarettes per day | 61 to 91.5 cigarettes per day | 1.774952        | 4.838291          |
| Condition                  | ID       | Group 1 | Group 2 | Odds Ratio | 95% CI Lower | 95% CI Upper |
|----------------------------|----------|---------|---------|------------|--------------|--------------|
| Alzheimer Other Dementia   | 358838   | 0       | 0 cigarettes per day | 20 to 40 cigarettes per day | 1.667707 | 0.731613 |
| Alzheimer Other Dementia   | 358838   | 1       | 0 cigarettes per day | 40 to 60 cigarettes per day | 0.182322 | 3.656463 |
| Alzheimer Other Dementia   | 358838   | 0       | 0 cigarettes per day | 0 to 19 cigarettes per day | 0.470004 | 0.398597 |
| Alzheimer Other Dementia   | 358838   | 0       | 0 cigarettes per day | 20 to 20 cigarettes per day | 0.993252 | 0.699169 |
| Alzheimer Other Dementia   | 501943   | 0       | 0 cigarettes per day | 1 to 9 cigarettes per day | 0.292670 | 0.1205 |
| Alzheimer Other Dementia   | 501943   | 0       | 0 cigarettes per day | 10 to 20 cigarettes per day | 0.113329 | 0.86609 |
| Alzheimer Other Dementia   | 501943   | 0       | 0 cigarettes per day | 20 to 30 cigarettes per day | 0.993252 | 0.699169 |
| Aortic Aneurism             | 173863   | 0       | 0 cigarettes per day | 1 to 9 cigarettes per day | 0.292670 | 0.1205 |
| Aortic Aneurism             | 173863   | 0       | 0 cigarettes per day | 10 to 20 cigarettes per day | 0.113329 | 0.86609 |
| Aortic Aneurism             | 173863   | 0       | 0 cigarettes per day | 20 to 30 cigarettes per day | 0.993252 | 0.699169 |
| Aortic Aneurism             | 236197   | 0       | 0 cigarettes per day | 10 to 19 cigarettes per day | 0.576613 | 0.21784 |
| Aortic Aneurism             | 236197   | 0       | 0 cigarettes per day | 20 to 30 cigarettes per day | 1.252763 | 0.567105 |
| Aortic Aneurism             | 236197   | 0       | 0 cigarettes per day | 20 to 30 cigarettes per day | 1.280934 | 1.031817 |
| Aortic Aneurism             | 328259   | 0       | 0 cigarettes per day | 1 to 2 cigarettes per day | 0.530628 | 0.17894 |
| Aortic Aneurism             | 328259   | 0       | 0 cigarettes per day | 1 to 2 cigarettes per day | 0.530628 | 0.17894 |
| Aortic Aneurism             | 328259   | 0       | 0 cigarettes per day | 16 to 24 cigarettes per day | 1.098612 | 0.807509 |
| Aortic Aneurism             | 343424   | 0       | 0 cigarettes per day | 1 to 2 cigarettes per day | 0.530628 | 0.17894 |
| Aortic Aneurism             | 343424   | 0       | 0 cigarettes per day | 1 to 2 cigarettes per day | 0.530628 | 0.17894 |
| Aortic Aneurism             | 350128   | 0       | 0 cigarettes per day | 20 to 30 cigarettes per day | 0.530628 | 0.17894 |
| Procedure                        | Cigarettes per day | Cigarettes per day | Chi-Squared | P-Value  |
|----------------------------------|--------------------|--------------------|-------------|----------|
| aortic aneurism                  | 350128             | 0                  | 16 to 20   | 1.435085 | 0.5345   |
| aortic aneurism                  | 350131             | 0                  | 0 to 9     | 0.828552 | 1.6207   |
| aortic aneurism                  | 350131             | 0                  | 10 to 20   | 1.697449 | 0.680319 |
| aortic aneurism                  | 350131             | 0                  | 21 to 39   | 1.850028 | 0.584047 |
| aortic aneurism                  | 350131             | 0                  | 40 to 60   | 1.971299 | 0.517346 |
| aortic aneurism                  | 355955             | 1                  | 1 to 14    | -0.19845 | 4.529928 |
| aortic aneurism                  | 355955             | 0                  | 15 to 24   | -0.19845 | 4.529928 |
| aortic aneurism                  | 358841             | 1                  | 0 to 9     | 1.822935 | 0.43355  |
| aortic aneurism                  | 358841             | 0                  | 10 to 19   | 2.280339 | 0.383175 |
| aortic aneurism                  | 358841             | 0                  | 20 to 30   | 2.618855 | 0.458514 |
| aortic aneurism                  | 358843             | 1                  | 37.5      | 2.721295 | 0.224893 |
| aortic aneurism                  | 358843             | 1                  | 15 to 24   | 2.653242 | 0.217376 |
| aortic aneurism                  | 358843             | 0                  | 5 to 14    | 1.774952 | 0.363196 |
| aortic aneurism                  | 358843             | 0                  | 1 to 4     | 0.587787 | 0.992063 |
| aortic aneurism                  | 358845             | 0                  | 0 to 19    | 0.951658 | 0.303365 |
| aortic aneurism                  | 358845             | 0                  | 20 to 40   | 1.595339 | 0.154717 |
| aortic aneurism                  | 358845             | 0                  | 41 to 61.5 | 1.506297 | 0.576949 |
| asthma                           | 111344             | 1                  | 31.5      | 1.289233 | 0.251588 |
| asthma                           | 111344             | 0                  | 10 to 19   | 0.058269 | 0.668589 |
| asthma                           | 111344             | 0                  | 0 to 9     | 0.113329 | 0.081997 |
| asthma                           | 111344             | 0                  | 21 to 31.5 | 0.04879 | 0.634111 |
| asthma                           | 111344             | 0                  | 0 to 9     | 0.24686 | 0.051818 |
| asthma                           | 111344             | 0                  | 10 to 19   | 0.322083 | 0.040668 |
| asthma                           | 111344             | 0                  | 0 to 9     | 0.398776 | 0.035954 |
| asthma                           | 111344             | 0                  | 41 to 61.5 | 0.431782 | 0.09939 |
| asthma                           | 111344             | 0                  | 10 to 19   | 0.672944 | 0.072886 |
| asthma                           | 111344             | 1                  | 21 to 31.5 | 0.81978 | 0.06518 |
| asthma                           | 173863             | 0                  | 1 to 14    | 0.405465 | 1.581633 |
| asthma                           | 173863             | 0                  | 25 to 37.5 | 0.405465 | 1.581633 |
| asthma                           | 173863             | 0                  | 15 to 24   | 0.693147 | 1.186224 |
| asthma                           | 346726             | 0                  | 11 to 16.5 | 1.205971 | 0.335299 |
| asthma                           | 346726             | 0                  | 0 to 9     | 0.900161 | 0.344284 |
| asthma                           | 346728             | 0                  | 0.0027 to 0.2712 | 0.09531 | 0.231911 |
| asthma                           | 346728             | 0                  | 0.274 to 0.8192 | 0.587787 | 0.623583 |
| asthma                           | 346730             | 0                  | 16 to 24   | 0.04879 | 0.206511 |
| asthma                           | 346730             | 0                  | 1 to 14    | 0.65752 | 0.22338 |
| Condition   | ID     | Group | Cigarettes Per Day | Cigarettes Per Day | Odds Ratio | Lower CI | Upper CI |
|-------------|--------|-------|--------------------|--------------------|------------|----------|----------|
| Asthma      | 346737 | 0     | 0                  | 11 to 16.5         | 1.04842    | 0.646552 | 0.624699 |
| Asthma      | 346737 | 0     | 0                  | 0 to 9             | 0.672944   | 0.715848 |          |
| Asthma      | 346737 | 0     | 0                  | 11 to 20           | 0.858662   | 0.539389 |          |
| Asthma      | 346737 | 0     | 0                  | 21 to 30           | 1.043804   | 0.591046 |          |
| Asthma      | 346737 | 0     | 0                  | 31 to 46.5         | 1.686399   | 0.659486 |          |
| Asthma      | 346743 | 0     | 0                  | 26 to 39           | -0.24846   | 0.160256 |          |
| Asthma      | 346743 | 1     | 0                  | 15 to 24           | -0.37106   | 0.140491 |          |
| Asthma      | 346743 | 0     | 0                  | 1 to 14            | -0.22314   | 0.159439 |          |
| Bladder Cancer | 343155 | 0     | 0                  | 0 to 20            | 0.741937   | 0.42517  |          |
| Bladder Cancer | 343155 | 0     | 0                  | 21 to 40           | 0.993252   | 0.245654 |          |
| Bladder Cancer | 343155 | 0     | 0                  | 0 to 20            | 1.360977   | 0.327054 |          |
| Bladder Cancer | 343155 | 0     | 0                  | 21 to 40           | 1.458615   | 0.266967 |          |
| Bladder Cancer | 343155 | 0     | 0                  | 41 to 61.5         | 1.504077   | 0.243764 |          |
| Bladder Cancer | 343155 | 0     | 0                  | 41 to 61.5         | 1.526056   | 0.160825 |          |
| Bladder Cancer | 343198 | 0     | 0                  | 1 to 19            | 0.405465   | 0.379611 |          |
| Bladder Cancer | 343198 | 0     | 0                  | 20 to 39           | 0.470004   | 0.424747 |          |
| Bladder Cancer | 343198 | 0     | 0                  | 40 to 59           | 1.163151   | 0.49335  |          |
| Bladder Cancer | 343198 | 0     | 0                  | 60 to 90           | 1.987874   | 0.509558 |          |
| Bladder Cancer | 343580 | 0     | 0                  | 0.05 to 25         | 0.470004   | 0.243753 |          |
| Bladder Cancer | 343580 | 0     | 0                  | 25.05 to 50        | 0.916291   | 0.227289 |          |
| Bladder Cancer | 343580 | 0     | 0                  | 50.05 to 75        | 1.93922    | 0.231306 |          |
| Bladder Cancer | 343580 | 0     | 0                  | 75.05 to 112.5     | 0.916291   | 0.262658 |          |
| Bladder Cancer | 344435 | 0     | 0                  | 20 to 39           | 0.593327   | 0.302242 |          |
| Bladder Cancer | 344435 | 0     | 0                  | 1 to 19            | 0.329304   | 0.274954 |          |
| Bladder Cancer | 344435 | 0     | 0                  | 40 to 60           | 1.585145   | 0.427412 |          |
| Bladder Cancer | 344435 | 0     | 0                  | 20 to 39           | 0.858662   | 0.201283 |          |
| Bladder Cancer | 344435 | 0     | 0                  | 1 to 19            | 0.385262   | 0.202539 |          |
| Bladder Cancer | 344435 | 0     | 0                  | 40 to 60           | 0.875469   | 0.193384 |          |
| Bladder Cancer | 502089 | 0     | 0                  | 1 to 19            | 1.223775   | 0.490736 |          |
| Bladder Cancer | 502089 | 1     | 0                  | 20 to 30           | 2.76001    | 0.503111 |          |
| Bladder Cancer | 502130 | 0     | 0                  | 0 to 10            | 0.928219   | 0.469006 |          |
| Bladder Cancer | 502130 | 0     | 0                  | 10 to 19           | 1.118415   | 0.330134 |          |
| Bladder Cancer | 502130 | 1     | 0                  | 20 to 29           | 1.927164   | 0.249833 |          |
| Bladder Cancer | 502130 | 1     | 0                  | 30 to 45           | 2.00148    | 0.222311 |          |
| Bladder Cancer | 502393 | 0     | 0                  | 16 to 24           | -0.22314   | 1.035827 |          |
| Bladder Cancer | 502393 | 0     | 0                  | 1 to 15            | -1.20397   | 1.273936 |          |
| Bladder Cancer | 502393 | 0     | 0                  | 16 to 24           | 0.262364   | 0.36406  |          |
| Bladder Cancer | 502393 | 0     | 0                  | 1 to 15            | -0.91629   | 0.633905 |          |
| Bladder Cancer | 502401 | 0     | 0                  | 0.05 to 19.95      | -0.13926   | 0.330439 |          |
| Bladder Cancer | 502401 | 0     | 0                  | 20 to 39.95        | 0.444686   | 0.326596 |          |
| Bladder Cancer | 502401 | 0     | 0                  | 40 to 60           | 0.698135   | 0.307368 |          |
| Bladder Cancer | 502403 | 0     | 0                  | 1 to 24            | 0.450693   | 0.142378 |          |
| bladder_cancer | 502403 | 0 | 0 pack-years | 25 to 45 pack-years | 0.775096 | 0.124845 |
| blader_cancer | 502403 | 0 | 0 pack-years | 46 to 69 pack-years | 0.796967 | 0.126581 |
| blader_cancer | 502413 | 0 | 0 pack-years | 21.52 to 40.51 pack-years | 1.420696 | 0.662358 |
| blader_cancer | 502413 | 0 | 0 pack-years | 40.52 to 60.78 pack-years | 2.424803 | 0.618586 |
| blader_cancer | 502413 | 0 | 0 pack-years | 0.06 to 21.51 pack-years | 0.924259 | 0.759246 |
| blader_cancer | 502413 | 0 | 0 pack-years | 21.52 to 40.51 pack-years | 0.770108 | 0.410044 |
| blader_cancer | 502413 | 0 | 0 pack-years | 40.52 to 60.78 pack-years | 0.985817 | 0.372693 |
| blader_cancer | 502415 | 0 | 0 pack-years | 1 to 19 pack-years | 0.377957 | 0.1952 |
| blader_cancer | 502415 | 0 | 0 pack-years | 20 to 39 pack-years | 0.431782 | 0.34702 |
| blader_cancer | 502431 | 0 | 0 pack-years | 1 to 24 pack-years | 0.369078 | 0.093233 |
| blader_cancer | 502431 | 1 | 0 pack-years | 25 to 49 pack-years | 0.53462 | 0.091281 |
| blader_cancer | 502444 | 0 | 0 pack-years | 0.1 to 10 pack-years | -0.09431 | 0.398124 |
| blader_cancer | 502444 | 0 | 0 pack-years | 11 to 20 pack-years | 0.693147 | 0.381878 |
| blader_cancer | 502444 | 0 | 0 pack-years | 40 to 50 pack-years | 1.360977 | 0.167546 |
| blader_cancer | 502444 | 0 | 0 pack-years | 31 to 40 pack-years | 0.916291 | 0.374066 |
| blader_cancer | 502444 | 0 | 0 pack-years | 40 to 50 pack-years | 1.193922 | 0.275743 |
| blader_cancer | 502444 | 0 | 0 pack-years | 21 to 30 pack-years | 0.530628 | 0.437449 |
| blader_cancer | 502444 | 0 | 0 pack-years | 31 to 40 pack-years | 0.832909 | 0.223334 |
| blader_cancer | 502444 | 0 | 0 pack-years | 11 to 20 pack-years | 0.530628 | 0.238344 |
| blader_cancer | 502444 | 0 | 0 pack-years | 21 to 30 pack-years | 0.587787 | 0.247296 |
| blader_cancer | 502444 | 0 | 0 pack-years | 0.1 to 10 pack-years | 0.09531 | 0.285686 |
| bladder_cancer | pack-years | pack-years | pack-years | pack-years | pack-years | pack-years | pack-years | pack-years | pack-years |
|----------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| 502444         | 0          | 0          | 40 to 50   | 1.280934   | 0.132128   |
| 502446         | 1          | 0          | 22.5 to 33.75 | 0.265053 | 0.072072 |
| 502446         | 0          | 0          | 1 to 22.5 | 0.332608 | 0.112269 |
| 502446         | 1          | 0          | 22.6 to 33.9 | 0.742842 | 0.094918 |
| 502446         | 0          | 0          | 60 to 89.9 | 0.993252 | 0.130313 |
| 502446         | 0          | 0          | 30 to 59.9 | 0.955511 | 0.107452 |
| 502446         | 1          | 0          | 40 to 49 | 1.589235 | 0.165649 |
| 502444         | 0          | 0          | 1 to 22.5 | 0.332608 | 0.112284 |
| 502444         | 1          | 0          | 22.6 to 33.9 | 0.265053 | 0.033218 |
| 502444         | 0          | 0          | 1 to 29 pack-years | 0.405465 | 0.117228 |
| 502444         | 0          | 0          | 30 to 59.9 pack-years | 0.955511 | 0.107452 |
| 502444         | 1          | 0          | 1 to 19 pack-years | 0.530628 | 0.12234 |
| 502444         | 0          | 0          | 20 to 39 pack-years | 1.163151 | 0.126198 |
| 502444         | 0          | 0          | 90 to 135 pack-years | 1.098612 | 0.134711 |
| 502444         | 1          | 0          | 1 to 29 pack-years | 0.530628 | 0.154626 |
| 502444         | 0          | 0          | 30 to 59.9 pack-years | 1.064711 | 0.132621 |
| 502444         | 0          | 0          | 60 to 89.9 pack-years | 1.252763 | 0.217727 |
| 502444         | 0          | 0          | 90 to 135 pack-years | 0.993252 | 0.301982 |
| 502444         | 0          | 0          | 50 to 75 pack-years | 0.806476 | 0.30131 |
| 502444         | 0          | 0          | 25 to 37.5 pack-years | 1.66203 | 0.743037 |
| 502444         | 0          | 0          | 40 to 49 pack-years | 0.662688 | 0.309054 |
| 502444         | 0          | 0          | 1 to 24 pack-years | 2.116256 | 0.43364 |
| 502444         | 0          | 0          | 20 to 29 pack-years | 0.277632 | 0.323714 |
| 502444         | 0          | 0          | 1 to 19 pack-years | -0.16252 | 0.427895 |
| 502444         | 0          | 0          | 30 to 39 pack-years | 0.207014 | 0.310164 |
| 502444         | 0          | 0          | 75.05 to 112.5 pack-years | 1.223775 | 0.259163 |
| 502444         | 0          | 0          | 50.05 to 75 pack-years | 1.435085 | 0.241479 |
| 502444         | 0          | 0          | 0.05 to 25 pack-years | 0.530628 | 0.262658 |
| 502444         | 0          | 0          | 25.05 to 50 pack-years | 1.131402 | 0.223334 |
| 502444         | 0          | 0          | 1 to 30 pack-years | 0.751416 | 0.295513 |
| 502444         | 1          | 0          | 31 to 46.5 pack-years | 0.832909 | 0.290515 |
| 502444         | 0          | 0          | 0 to 25 pack-years | 1.029619 | 0.18345 |
| 502444         | 1          | 0          | 25 to 51 pack-years | 1.824549 | 0.170959 |
| 502444         | 1          | 0          | 52 to 78 pack-years | 1.960995 | 0.176823 |
| 502444         | 0          | 0          | 1 to 14 pack-years | 0.587787 | 0.673229 |
| cancer          | pack-years | pack-years | pack-years | pack-years | pack-years | pack-years | pack-years | pack-years |
|-----------------|------------|------------|------------|------------|------------|------------|------------|------------|
| bladder_cancer  | 502464     | 0          | 22          | 1          | 22.5       | 1.481605   | 0.630613   |            |
| bladder_cancer  | 502466     | 0          | 1           | 19         | 1.08316    |            |            |            |
| bladder_cancer  | 502466     | 0          | 20          | 30         | 0.834647   |            |            |            |
| bladder_cancer  | 502468     | 0          | 1           | 10         | 0.470004   |            |            |            |
| bladder_cancer  | 502468     | 0          | 30          | 45         | 0.832909   |            |            |            |
| bladder_cancer  | 502468     | 1          | 21          | 30         | 1.547563   |            |            |            |
| bladder_cancer  | 502468     | 1          | 11          | 20         | 1.193922   |            |            |            |
| bladder_cancer  | 502468     | 0          | 1           | 10         | 0.530628   |            |            |            |
| bladder_cancer  | 502468     | 0          | 30          | 45         | 0.693147   |            |            |            |
| bladder_cancer  | 502468     | 1          | 21          | 30         | 1.308333   |            |            |            |
| bladder_cancer  | 502468     | 0          | 11          | 20         | 0.641854   |            |            |            |
| bladder_cancer  | 502468     | 0          | 30          | 45         | 1.280934   |            |            |            |
| bladder_cancer  | 502468     | 1          | 11          | 20         | 1.098612   |            |            |            |
| bladder_cancer  | 502468     | 0          | 1           | 10         | 0.405465   |            |            |            |
| bladder_cancer  | 502468     | 0          | 21          | 30         | 0.993252   |            |            |            |
| bladder_cancer  | 502476     | 0          | 1           | 31         | 0.270103   |            |            |            |
| bladder_cancer  | 502476     | 1          | 31          | 31         | 0.319181   |            |            |            |
| bladder_cancer  | 502476     | 0          | 1           | 31         | 0.627061   |            |            |            |
| bladder_cancer  | 502476     | 0          | 20          | 20         | 0.515813   |            |            |            |
| bladder_cancer  | 502486     | 0          | 40          | 40         | 0.831168   |            |            |            |
| bladder_cancer  | 502486     | 0          | 30          | 30         | 1.24069    |            |            |            |
| breast_cancer   | 309776     | 0          | 1           | 19         | 0.741937   |            |            |            |
| breast_cancer   | 309776     | 1          | 30          | 30         | 1.064711   |            |            |            |
| breast_cancer   | 310321     | 0          | 4           | 1           | 0.076961   |            |            |            |
| breast_cancer   | 310321     | 0          | 10          | 14         | 0.076961   |            |            |            |
| breast_cancer   | 310321     | 0          | 10          | 15         | 0.198851   |            |            |            |
| breast_cancer   | 310321     | 0          | 15          | 9          | 0.262364   |            |            |            |
| breast_cancer   | 310321     | 0          | 20          | 30         | 0.29267    |            |            |            |
| breast_cancer   | 310343     | 0          | 1           | 5          | 0.067659   |            |            |            |
| breast_cancer   | 310343     | 0          | 6           | 10         | 0.10436    |            |            |            |
| breast_cancer   | 310343     | 0          | 11          | 15         | 0.165514   |            |            |            |
| breast_cancer   | 310343     | 1          | 16          | 24         | 0.29267    |            |            |            |
| breast_cancer   | 310352     | 0          | 10          | 19         | 0.19062    |            |            |            |
| breast_cancer   | 310352     | 0          | 50          | 75         | 0.165514   |            |            |            |
| breast_cancer   | 310352     | 0          | 40          | 49         | 0.14842    |            |            |            |
| breast_cancer   | 310352     | 0          | 0           | 9          | 0.039221   |            |            |            |
| breast_cancer   | 310352     | 0          | 30          | 39         | 0.00995    |            |            |            |
| breast_cancer | 310352 | 0   | 0 pack-years | 20 to 29 pack-years | 0.122218 | 0.072241 |
|---------------|--------|-----|--------------|----------------------|----------|----------|
| breast_cancer | 310353 | 0   | 0 pack-years | 1 to 10 pack-years   | 0        | 0.033044 |
| breast_cancer | 310353 | 0   | 0 pack-years | 11 to 20 pack-years  | 0.076961 | 0.035324 |
| breast_cancer | 310353 | 0   | 0 pack-years | 21 to 30 pack-years  | 0.067659 | 0.035654 |
| breast_cancer | 310353 | 0   | 0 pack-years | 31 to 40 pack-years  | 0.14842  | 0.041697 |
| breast_cancer | 310353 | 0   | 0 pack-years | 41 to 50 pack-years  | 0.04879  | 0.058008 |
| breast_cancer | 310353 | 0   | 0 pack-years | 51 to 76.5 pack-years| 0.173953 | 0.05549  |
| breast_cancer | 310366 | 0   | 0 pack-years | 21 to 30 pack-years  | 0.336472 | 0.109329 |
| breast_cancer | 310366 | 0   | 0 pack-years | 11 to 20 pack-years  | 0        | 0.102041 |
| breast_cancer | 310366 | 0   | 0 pack-years | 1 to 10 pack-years   | -0.10536 | 0.141723 |
| breast_cancer | 310366 | 0   | 0 pack-years | 31 to 46.5 pack-years| 0.223144 | 0.083673 |
| breast_cancer | 310366 | 0   | 0 pack-years | 0 to 10 pack-years   | 0.019803 | 0.062525 |
| breast_cancer | 310366 | 0   | 0 pack-years | 20 to 29 pack-years  | 0.392042 | 0.14134  |
| breast_cancer | 310387 | 0   | 0 pack-years | 30 to 39 pack-years  | 0.262364 | 0.098116 |
| breast_cancer | 310414 | 0   | 0 pack-years | 10 to 19 pack-years  | 0.215111 | 0.084348 |
| breast_cancer | 310414 | 0   | 0 pack-years | 15 to 19 pack-years  | 0.24686  | 0.151467 |
| breast_cancer | 310428 | 0   | 0 pack-years | 0 to 19 pack-years   | -0.17435 | 0.151846 |
| breast_cancer | 310428 | 0   | 0 pack-years | 20 to 30 pack-years  | 0.336472 | 0.182216 |
| breast_cancer | 310438 | 0   | 0 pack-years | 31 to 46.5 pack-years| 0.223144 | 0.083673 |
| breast_cancer | 310438 | 0   | 0 pack-years | 0 to 10 pack-years   | 0.019803 | 0.062525 |
| breast_cancer | 310463 | 0   | 0 pack-years | 10.1 to 19 pack-years| -0.15082 | 0.16018  |
| breast_cancer | 310463 | 1   | 0 pack-years | 21 to 31.5 pack-years| -0.17435 | 0.151846 |
| breast_cancer | 310463 | 0   | 0 pack-years | 20 to 29 pack-years  | 0.392042 | 0.14134  |
| breast_cancer | 310463 | 0   | 0 pack-years | 3.8 to 9 pack-years  | -0.34249 | 0.247916 |
| breast_cancer | 310487 | 0   | 0 pack-years | 10 to 19 pack-years  | 0.09531  | 0.069573 |
| breast_cancer | 310487 | 0   | 0 pack-years | 0 to 9 pack-years    | 0.09531  | 0.069573 |
| breast_cancer | 310487 | 0   | 0 pack-years | 20 to 29 pack-years  | 0.09531  | 0.069573 |
| breast_cancer | 310487 | 0   | 0 pack-years | 40 to 60 pack-years  | 0.09531  | 0.115955 |
| breast_cancer | 310487 | 0   | 0 pack-years | 10 to 19 pack-years  | 0.09531  | 0.069573 |
| breast_cancer | 310487 | 0   | 0 pack-years | 10 to 19 pack-years  | 0.09531  | 0.069573 |
| breast_cancer | 310487 | 0   | 0 pack-years | 30 to 39 pack-years  | 0.262364 | 0.098116 |
| breast_cancer | 310487 | 0   | 0 pack-years | 20 to 29 pack-years  | 0.542324 | 0.97888  |
| breast_cancer | 310487 | 0   | 0 pack-years | 0 to 19 pack-years   | 0.524729 | 0.532846 |
| breast_cancer | 310487 | 0   | 0 pack-years | 20 to 29 pack-years  | 0.00995  | 0.442008 |
| breast_cancer | 310487 | 1   | 0 pack-years | 0 to 19 pack-years   | -0.17435 | 0.728863 |
| breast_cancer | 310487 | 0   | 0 pack-years | 5 to 9 pack-years    | 0.04879  | 0.10447  |
| breast_cancer | 310487 | 0   | 0 pack-years | 1 to 4 pack-years    | 0.09531  | 0.081169 |
| breast_cancer | 310487 | 0   | 0 pack-years | 10 to 19 pack-years  | 0.239017 | 0.092399 |
| breast_cancer | 310487 | 1   | 0 pack-years | 40 to 60 pack-years  | -0.16252 | 0.222089 |
| breast_cancer | 310487 | 0   | 0 pack-years | 1 to 8 pack-years    | 0.10436  | 0.098823 |
| breast_cancer | 310487 | 0   | 0 pack-years | 10 to 18 pack-years  | 0.165514 | 0.142684 |
| breast_cancer | 310487 | 0   | 0 pack-years | 20 to 28 pack-years  | 0.173953 | 0.158635 |
| breast_cancer | 310487 | 0   | 0 pack-years | 30 to 38 pack-years  | 0.385262 | 0.206511 |
| breast_cancer | 310487 | 0   | 0 pack-years | 21 to 31.5 pack-years| 0.173953 | 0.128623 |
| breast_cancer | 310487 | 0   | 0 pack-years | 20 to 28 pack-years  | 0.09531  | 0.10436  |
| breast_cancer | 310487 | 0   | 0 pack-years | 31 to 46.5 pack-years| 0.067659 | 0.288957 |
| Disease          | ID     | Gender | Age Group | Cigarettes per Day | Odds Ratio | Confidence Interval |
|------------------|--------|--------|-----------|-------------------|------------|---------------------|
| Breast Cancer    | 359078 | 0      | 0 pack-years 0 to 9 pack-years | -0.07257 | 0.065833 |                      |
| Breast Cancer    | 359078 | 0      | 0 pack-years 0 to 19 pack-years | -0.19845 | 0.171105 |                      |
| Breast Cancer    | 359078 | 0      | 0 pack-years 10 to 18 pack-years | 0.058269 | 0.089045 |                      |
| Breast Cancer    | 359082 | 0      | 0 pack-years 0 to 14 pack-years | 0.00995  | 0.202061 |                      |
| Breast Cancer    | 359082 | 0      | 0 pack-years 10 to 20 pack-years | 0.24686 | 0.292969 |                      |
| Breast Cancer    | 359082 | 0      | 0 pack-years 21 to 31.5 pack-years | 0.29267 | 0.19799 |                      |
| Breast Cancer    | 359086 | 0      | 0 pack-years 5 to 8.9 pack-years | -0.10536 | 0.255102 |                      |
| Breast Cancer    | 359086 | 0      | 0 pack-years 10 to 13.9 pack-years | 0.182322 | 0.297619 |                      |
| Breast Cancer    | 359086 | 0      | 0 pack-years 2.5 to 3.9 pack-years | 0.262364 | 0.294349 |                      |
| Breast Cancer    | 359086 | 1      | 0 pack-years 0 to 1.5 pack-years | 0.405465 | 0.170068 |                      |
| Breast Cancer    | 359086 | 1      | 0 pack-years 15 to 22.5 pack-years | 0.470004 | 0.191327 |                      |
| Breast Cancer    | 359094 | 0      | 0 pack-years 31 to 46.5 pack-years | 0.239017 | 0.345493 |                      |
| Breast Cancer    | 359094 | 0      | 0 pack-years 10 to 20 pack-years | 0.029559 | 0.356648 |                      |
| Breast Cancer    | 359094 | 0      | 0 pack-years 20 to 30 pack-years | -0.23572 | 0.461767 |                      |
| Breast Cancer    | 359094 | 0      | 0 pack-years 0 to 10 pack-years | -0.03046 | 0.32085 |                      |
| Breast Cancer    | 448179 | 0      | 0 pack-years 0 to 5 pack-years | 0.139762 | 0.059908 |                      |
| Breast Cancer    | 448179 | 0      | 0 pack-years 6 to 10 pack-years | 0.165514 | 0.064655 |                      |
| Breast Cancer    | 448179 | 0      | 0 pack-years 11 to 15 pack-years | 0.270027 | 0.068303 |                      |
| Breast Cancer    | 448179 | 0      | 0 pack-years 15 to 22.5 pack-years | 0.254642 | 0.064856 |                      |
| Breast Cancer    | 502130 | 0      | 0 pack-years 0 to 10 pack-years | -0.03046 | 0.058229 |                      |
| Breast Cancer    | 502130 | 1      | 0 pack-years 10 to 19 pack-years | -0.12783 | 0.089259 |                      |
| Breast Cancer    | 502130 | 0      | 0 pack-years 20 to 29 pack-years | 0.113329 | 0.085835 |                      |
| Breast Cancer    | 502130 | 0      | 0 pack-years 30 to 45 pack-years | -0.01005 | 0.079321 |                      |
| Breast Cancer    | 502130 | 0      | 0 pack-years 1 to 9 pack-years | 0.157004 | 0.181448 |                      |
| Breast Cancer    | 502130 | 0      | 0 pack-years 10 to 19 pack-years | 0.04879 | 0.245258 |                      |
| Breast Cancer    | 502130 | 0      | 0 pack-years 20 to 30 pack-years | 0.451076 | 0.221451 |                      |
| Breast Cancer    | 502130 | 0      | 0 pack-years 1 to 9 pack-years | 0.058269 | 0.161461 |                      |
| Breast Cancer    | 502130 | 0      | 0 pack-years 10 to 19 pack-years | -0.04082 | 0.208635 |                      |
| Breast Cancer    | 502130 | 0      | 0 pack-years 20 to 30 pack-years | 0.122218 | 0.15602 |                      |
| Breast Cancer    | 502349 | 0      | 0 pack-years 10 to 14.9 pack-years | 0.207014 | 0.083016 |                      |
| Breast Cancer    | 502349 | 0      | 0 pack-years 15 to 19.9 pack-years | -0.01005 | 0.099253 |                      |
| Breast Cancer    | 502349 | 0      | 0 pack-years 2.5 to 4.9 pack-years | 0.215111 | 0.104276 |                      |
| Breast Cancer    | 502349 | 0      | 0 pack-years 5 to 9.9 pack-years | 0.131028 | 0.084327 |                      |
| Breast Cancer    | 502349 | 0      | 0 pack-years 20 to 30 pack-years | 0.231112 | 0.076907 |                      |
| Cataracts        | 261496 | 0      | 0 cigarettes per day 1 to 14 cigarettes per day | -0.06188 | 0.881323 |                      |
| Cataracts        | 261496 | 0      | 0 cigarettes per day 1 to 14 cigarettes per day | 0.364643 | 0.575308 |                      |
| Cataracts        | 261496 | 0      | 0 cigarettes per day 15 to 22.5 cigarettes per day | 0.470004 | 0.517777 |                      |
| Cataracts        | 261496 | 0      | 0 cigarettes per day 15 to 22.5 cigarettes per day | 0.482426 | 0.511385 |                      |
| Cataracts        | 261527 | 0      | 0 cigarettes per day 0 to 19 cigarettes per day | -0.0202 | 0.471158 |                      |
| Cataracts        | 261527 | 0      | 0 cigarettes per day 20 to 30 cigarettes per day | 0.350657 | 0.434751 |                      |
| Cataracts        | 261527 | 0      | 0 cigarettes per day 0 to 19 cigarettes per day | 0.500775 | 0.38961 |                      |
| Cataracts        | 263023 | 0      | 0 cigarettes per day 1 to 5 cigarettes per day | -0.05129 | 0.126208 |                      |
| Cataracts        | 263023 | 0      | 0 cigarettes per day 6 to 10 cigarettes per day | 0.076961 | 0.09212 |                      |
| Disease               | Code   | Count | Group            | Lower Limit | Upper Limit |
|-----------------------|--------|-------|------------------|-------------|-------------|
| Cataracts             | 263023 | 0     | 0 cigarettes per day | 11 to 15 cigarettes per day | 0.19062 | 0.109631 |
| Cataracts             | 263023 | 0     | 0 cigarettes per day | 16 to 24 cigarettes per day | 0.285179 | 0.161117 |
| Cataracts             | 350491 | 1     | 0 cigarettes per day | 1 to 14 cigarettes per day | 0.932164 | 0.227088 |
| Cataracts             | 350491 | 1     | 0 cigarettes per day | 15 to 24 cigarettes per day | 0.978326 | 0.249232 |
| Cataracts             | 350491 | 0     | 0 cigarettes per day | 25 to 37.5 cigarettes per day | 1.05779 | 0.364788 |
| Cataracts             | 350493 | 0     | 0 cigarettes per day | 35 to 52.5 cigarettes per day | 0.457425 | 0.264789 |
| Cataracts             | 350493 | 0     | 0 cigarettes per day | 15 to 24 cigarettes per day | 0.285179 | 0.153445 |
| Cataracts             | 350493 | 0     | 0 cigarettes per day | 25 to 34 cigarettes per day | 0.336472 | 0.213192 |
| Cataracts             | 350493 | 0     | 0 cigarettes per day | 1 to 14 cigarettes per day | -0.34249 | 0.233544 |
| Cataracts             | 350493 | 0     | 0 cigarettes per day | 1 to 14 cigarettes per day | 0.14842 | 0.105559 |
| Cataracts             | 359116 | 0     | 0 cigarettes per day | 0 to 14 cigarettes per day | 0.113329 | 0.011388 |
| Cataracts             | 359116 | 0     | 0 cigarettes per day | 15 to 22.5 cigarettes per day | 0.231112 | 0.014172 |
| Cataracts             | 359118 | 0     | 0 cigarettes per day | 1 to 5 cigarettes per day | 0.10436 | 0.054875 |
| Cataracts             | 359118 | 0     | 0 cigarettes per day | 6 to 10 cigarettes per day | 0.131028 | 0.040363 |
| Cataracts             | 359118 | 0     | 0 cigarettes per day | 11 to 15 cigarettes per day | 0.165514 | 0.043342 |
| Cataracts             | 359118 | 0     | 0 cigarettes per day | 15 to 22.5 cigarettes per day | 0.300105 | 0.039616 |
| Cataracts             | 359119 | 0     | 0 cigarettes per day | 0 to 19 cigarettes per day | -0.06188 | 0.374512 |
| Cataracts             | 359119 | 0     | 0 cigarettes per day | 0 to 19 cigarettes per day | -0.04082 | 0.369366 |
| Cataracts             | 359119 | 0     | 0 cigarettes per day | 20 to 30 cigarettes per day | 0.71784 | 0.207815 |
| Cataracts             | 359121 | 0     | 0 cigarettes per day | 0 to 9 cigarettes per day | 0.00995 | 0.164175 |
| Cataracts             | 359121 | 0     | 0 cigarettes per day | 20 to 29 cigarettes per day | 0.113329 | 0.168555 |
| Cataracts             | 359121 | 0     | 0 cigarettes per day | 31 to 46.5 cigarettes per day | 0.378436 | 0.262091 |
| Cataracts             | 501958 | 0     | 0 cigarettes per day | 10 to 15 cigarettes per day | -0.27813 | 0.150845 |
| Cataracts             | 501958 | 0     | 0 cigarettes per day | 16 to 20 cigarettes per day | -0.32962 | 0.183545 |
| Cataracts             | 501958 | 0     | 0 cigarettes per day | 1 to 9 cigarettes per day | -0.17162 | 0.21322 |
| Cataracts             | 501958 | 1     | 0 cigarettes per day | 21 to 31.5 cigarettes per day | -0.21791 | 0.180479 |
| Cervical cancer       | 328339 | 1     | 0 pack-years | 0 to 19 pack-years | -0.07257 | 1.859776 |
| Cervical cancer       | 328339 | 0     | 0 pack-years | 20 to 39 pack-years | 1.427916 | 1.016738 |
| Cervical cancer       | 347864 | 0     | 0 pack-years | 0 to 1 pack-years | 0.254642 | 0.312451 |
| Cervical cancer       | 347864 | 0     | 0 pack-years | 12 to 18 pack-years | 0.385262 | 0.315841 |
| Cervical cancer       | 347864 | 0     | 0 pack-years | 8 to 11 pack-years | 0.41871 | 0.313843 |
| Cervical cancer       | 347864 | 0     | 0 pack-years | 4 to 5 pack-years | 0.746688 | 0.305881 |
| Cervical cancer       | 347864 | 1     | 0 pack-years | 2 to 3 pack-years | 0.797507 | 0.294172 |
| Cervical cancer       | 347864 | 0     | 0 pack-years | 6 to 7 pack-years | 0.951658 | 0.321094 |
| Cervical cancer       | 358583 | 0     | 0 pack-years | 0 to 9 pack-years | 0.405465 | 0.204082 |
| Cervical cancer       | 502130 | 0     | 0 pack-years | 0 to 10 pack-years | 0.536493 | 0.740159 |
| Cervical cancer       | 502130 | 0     | 0 pack-years | 10 to 19 pack-years | 1.015231 | 0.460475 |
| Cervical cancer       | 502130 | 0     | 0 pack-years | 20 to 29 pack-years | 0.993252 | 0.492843 |
| Cervical cancer       | 502130 | 0     | 0 pack-years | 30 to 45 pack-years | 0.908259 | 0.457922 |
| Colon and rectum cancer | 164581 | 0     | 0 pack-years | 0 to 10 pack-years | -0.52763 | 0.609651 |
| Colon and rectum cancer | 164581 | 0     | 0 pack-years | 11 to 16.5 pack-years | -0.26136 | 0.54996 |
| Colon and rectum cancer | 164581 | 0     | 0 pack-years | 11 to 16.5 pack-years | -0.06188 | 1.071971 |
| Colon and rectum cancer | 164581 | 0     | 0 pack-years | 0 to 20 pack-years | 0.285179 | 0.489105 |
| colon_and_rectum_cancer 164581 | 0 | 0 pack-years | 0 to 20 pack-years | 0.307485 | 0.288866 |
|-----------------------------|---|---------------|-------------------|----------|----------|
| colon_and_rectum_cancer 164581 | 0 | 0 pack-years | 21 to 31.5 pack-years | 0.314811 | 0.281171 |
| colon_and_rectum_cancer 164581 | 0 | 0 pack-years | 0 to 10 pack-years | 0.565314 | 0.658047 |
| colon_and_rectum_cancer 164581 | 1 | 0 pack-years | 21 to 31.5 pack-years | 0.891998 | 0.437019 |
| colon_and_rectum_cancer 309619 | 0 | 0 pack-years | 30 to 39 pack-years | 0.336472 | 0.173105 |
| colon_and_rectum_cancer 328339 | 1 | 0 pack-years | 40 to 59 pack-years | 1.272566 | 1.837878 |
| colon_and_rectum_cancer 328339 | 0 | 0 pack-years | 20 to 39 pack-years | 0.71784 | 0.990543 |
| colon_and_rectum_cancer 328339 | 0 | 0 pack-years | 0 to 19 pack-years | 0.24686 | 0.406569 |
| colon_and_rectum_cancer 328339 | 0 | 0 pack-years | 20 to 39 pack-years | 0.131028 | 0.2372 |
| colon_and_rectum_cancer 328339 | 0 | 0 pack-years | 40 to 59 pack-years | 0.891998 | 0.437019 |
| colon_and_rectum_cancer 328339 | 0 | 0 pack-years | 20 to 39 pack-years | 0.71784 | 0.990543 |
| colon_and_rectum_cancer 328339 | 0 | 0 pack-years | 0 to 19 pack-years | 0.24686 | 0.406569 |
| colon_and_rectum_cancer 328339 | 0 | 0 pack-years | 20 to 39 pack-years | 0.131028 | 0.2372 |
| colon_and_rectum_cancer 343580 | 0 | 0 pack-years | 75.05 to 112.5 pack-years | 0.09531 | 0.294051 |
| colon_and_rectum_cancer 343580 | 0 | 0 pack-years | 50.05 to 75 pack-years | -0.10536 | 0.262658 |
| colon_and_rectum_cancer 343580 | 0 | 0 pack-years | 0.05 to 25 pack-years | 0.09531 | 0.240934 |
| colon_and_rectum_cancer 343580 | 0 | 0 pack-years | 50.05 to 75 pack-years | -0.10536 | 0.197242 |
| colon_and_rectum_cancer 343580 | 0 | 0 pack-years | 25.05 to 50 pack-years | 0.09531 | 0.176823 |
| colon_and_rectum_cancer 343580 | 0 | 0 pack-years | 0.05 to 25 pack-years | 0.182322 | 0.20687 |
| colon_and_rectum_cancer 343580 | 0 | 0 pack-years | 75.05 to 112.5 pack-years | -0.10536 | 0.233748 |
| colon_and_rectum_cancer 347927 | 0 | 0 pack-years | 40 to 60 pack-years | 0.482426 | 0.226757 |
| colon_and_rectum_cancer 347927 | 0 | 0 pack-years | 20 to 39 pack-years | 0.076961 | 0.238568 |
| colon_and_rectum_cancer 347927 | 0 | 0 pack-years | 1 to 19 pack-years | 0.139762 | 0.106477 |
| colon_and_rectum_cancer 347927 | 0 | 0 pack-years | 20 to 39 pack-years | 0.14842 | 0.116555 |
| colon_and_rectum_cancer 347927 | 0 | 0 pack-years | 40 to 60 pack-years | 0.19062 | 0.130743 |
| colon_and_rectum_cancer 347927 | 0 | 0 pack-years | 1 to 19 pack-years | 0.262364 | 0.202119 |
| colon_and_rectum_cancer 347932 | 0 | 0 pack-years | 10 to 19 pack-years | 0.405465 | 0.136054 |
| colon_and_rectum_cancer 347932 | 0 | 0 pack-years | 0 to 9 pack-years | 0.127551 | 0.156986 |
| colon_and_rectum_cancer 347932 | 0 | 0 pack-years | 20 to 30 pack-years | 0.262364 | 0.156986 |
| colon_and_rectum_cancer 347935 | 0 | 0 pack-years | 0 to 19 pack-years | -0.44629 | 0.613839 |
| colon_and_rectum_cancer 347935 | 0 | 0 pack-years | 40 to 60 pack-years | 0.076961 | 0.576342 |
| colon_and_rectum_cancer 347935 | 0 | 0 pack-years | 20 to 39 pack-years | 0.14842 | 0.580577 |
| colon_and_rectum_cancer 347935 | 0 | 0 pack-years | 0 to 19 pack-years | 0.845868 | 0.786108 |
| colon_and_rectum_cancer 347935 | 0 | 0 pack-years | 40 to 60 pack-years | 0.985817 | 0.615862 |
| colon_and_rectum_cancer 347935 | 1 | 0 pack-years | 20 to 39 pack-years | 1.435085 | 0.607993 |
| colon_and_rectum_cancer 358658 | 0 | 0 pack-years | 0.25 to 40 pack-years | 0.966984 | 0.879763 |
| colon_and_rectum_cancer 358658 | 0 | 0 pack-years | 61 to 91.5 pack-years | 0.262364 | 0.792779 |
| colon_and_rectum_cancer | pack-years       | pack-years       | 0.239017 | 0.283224 |
|-------------------------|------------------|------------------|----------|----------|
| colon_and_rectum_cancer | 0 to 10 pack-years | 0 to 10 pack-years | 0.444686 | 0.169897 |
| colon_and_rectum_cancer | 10 to 19 pack-years | 10 to 19 pack-years | 0.262364 | 0.139424 |
| colon_and_rectum_cancer | 20 to 29 pack-years | 20 to 29 pack-years | 0.285179 | 0.144213 |
| colon_and_rectum_cancer | 30 to 45 pack-years | 30 to 45 pack-years | 0.122218 | 0.136756 |
| colon_and_rectum_cancer | 1 to 30 pack-years | 1 to 30 pack-years | -0.03046 | 0.1013  |
| colon_and_rectum_cancer | 1 to 19 pack-years | 1 to 19 pack-years | 0.076961 | 0.089019 |
| colon_and_rectum_cancer | 20 to 39 pack-years | 20 to 39 pack-years | 0.086178 | 0.099627 |
| colon_and_rectum_cancer | 0 to 60 pack-years | 0 to 60 pack-years | 0.239017 | 0.101794 |
| colon_and_rectum_cancer | 1 to 9 pack-years | 1 to 9 pack-years | -0.13926 | 0.303927 |
| colon_and_rectum_cancer | 10 to 19 pack-years | 10 to 19 pack-years | 0.518794 | 0.296892 |
| colon_and_rectum_cancer | 20 to 30 pack-years | 20 to 30 pack-years | 0.71295  | 0.238487 |
| colon_and_rectum_cancer | 1 to 9 pack-years | 1 to 9 pack-years | 0.19062  | 0.326326 |
| colon_and_rectum_cancer | 10 to 19 pack-years | 10 to 19 pack-years | 0.300105 | 0.342307 |
| colon_and_rectum_cancer | 20 to 30 pack-years | 20 to 30 pack-years | 0.215111 | 0.286177 |
| colon_and_rectum_cancer | 0 to 20 pack-years | 0 to 20 pack-years | 0.797507 | 0.275602 |
| colon_and_rectum_cancer | 20 to 30 pack-years | 20 to 30 pack-years | 1.178655 | 0.521313 |
| colon_and_rectum_cancer | 1 to 19 pack-years | 1 to 19 pack-years | -0.44629 | 0.148762 |
| colon_and_rectum_cancer | 20 to 39 pack-years | 20 to 39 pack-years | 0.09995  | 0.14467 |
| colon_and_rectum_cancer | 40 to 60 pack-years | 40 to 60 pack-years | 0.553885 | 0.18302 |
| colon_and_rectum_cancer | 1 to 19 pack-years | 1 to 19 pack-years | 0.683097 | 0.328534 |
| colon_and_rectum_cancer | 20 to 30 pack-years | 20 to 30 pack-years | 0.996949 | 0.61681 |
| colon_and_rectum_cancer | 1 to 10 pack-years | 1 to 10 pack-years | -0.21072 | 0.423364 |
| colon_and_rectum_cancer | 11 to 16.5 pack-years | 11 to 16.5 pack-years | 0.173953 | 0.292644 |
| copd                    | 0 to 9 pack-years | 0 to 9 pack-years | 0.587787 | 2.253401 |
| copd                    | 0 to 10 pack-years | 0 to 10 pack-years | 2.128232 | 0.65294 |
| copd                    | 1 to 13.5 pack-years | 1 to 13.5 pack-years | 0.955511 | 0.155024 |
| copd                    | 3 to 40 pack-years | 3 to 40 pack-years | 1.098612 | 0.157313 |
| copd                    | 0 to 10 pack-years | 0 to 10 pack-years | 1.223775 | 0.144058 |
| copd                    | 4 to 50 pack-years | 4 to 50 pack-years | 1.360977 | 0.178571 |
| copd                    | 1 to 6.5 pack-years | 1 to 6.5 pack-years | 1.740466 | 0.149481 |
| copd                    | 1 to 9 pack-years | 1 to 9 pack-years | 0.628251 | 2.253401 |
| copd                    | 0 to 10 pack-years | 0 to 10 pack-years | 2.128232 | 0.65294 |
| copd                    | 1 to 13.5 pack-years | 1 to 13.5 pack-years | 0.636899 | 0.929811 |
| copd                    | 14 to 27 pack-years | 14 to 27 pack-years | 0.489112 | 0.271659 |
| copd                    | 14 to 27 pack-years | 14 to 27 pack-years | 1.144223 | 0.489112 |
| copd                    | 28 to 42 pack-years | 28 to 42 pack-years | 0.65752  | 0.325393 |
| copd                    | 1 to 13 pack-years | 1 to 13 pack-years | -0.67334 | 0.669142 |
| copd                    | 1 to 13 pack-years | 1 to 13 pack-years | 0.824175 | 0.493841 |
| copd                    | 0 to 19 pack-years | 0 to 19 pack-years | 1.163151 | 0.406569 |
| Disease | Code | Variable | Description | Mean | Standard Error |
|---------|------|----------|-------------|------|----------------|
| COPD    | 356165 | pack-years | 0 to 30 pack-years | 1.371181 | 0.336035 |
| COPD    | 356273 | pack-years | 1 to 19 pack-years | 0.736207 | 0.384364 |
| COPD    | 356275 | pack-years | 0 to 20 pack-years | 1.217752 | 0.154883 |
| COPD    | 426275 | pack-years | 0 to 19 pack-years | 1.944481 | 0.191235 |
| COPD    | 502093 | pack-years | 0.1 to 10 pack-years | 0.652325 | 0.055735 |
| COPD    | 502107 | pack-years | 1 to 16.5 pack-years | 1.764731 | 0.106998 |
| COPD    | 502472 | pack-years | 20 to 30 pack-years | 0.866512 | 0.208305 |
| Diabetes| 230548 | cigarettes per day | 1 to 20 cigarettes per day | 0.198851 | 0.150552 |
| Diabetes| 230548 | cigarettes per day | 21 to 31.5 cigarettes per day | 0.239017 | 0.154668 |
| Diabetes| 236197 | cigarettes per day | 0 to 9 cigarettes per day | 0.300105 | 0.198413 |
| Diabetes| 236197 | cigarettes per day | 10 to 19 cigarettes per day | 0.620576 | 0.869816 |
| Diabetes| 236197 | cigarettes per day | 20 to 30 cigarettes per day | 0.774727 | 0.745556 |
| Diabetes| 255434 | cigarettes per day | 1 to 9 cigarettes per day | 0.157004 | 0.337956 |
| Diabetes| 255434 | cigarettes per day | 10 to 15 cigarettes per day | 0.457425 | 0.161457 |
| Diabetes| 255463 | cigarettes per day | 1 to 19 cigarettes per day | 0.067659 | 0.295632 |
| diabetes | 255463 | 0 | 0 cigarettes per day | 1 to 19 cigarettes per day | 0.131028 | 0.140977 |
| diabetes | 255463 | 0 | 0 cigarettes per day | 20 to 30 cigarettes per day | 0.314811 | 0.107999 |
| diabetes | 255463 | 0 | 0 cigarettes per day | 21 to 31.5 cigarettes per day | 0.431782 | 0.127551 |
| diabetes | 309584 | 0 | 0 cigarettes per day | 1 to 10 cigarettes per day | -0.17435 | 0.264213 |
| diabetes | 309584 | 0 | 0 cigarettes per day | 11 to 20 cigarettes per day | 0.231112 | 0.119453 |
| diabetes | 309584 | 0 | 0 cigarettes per day | 16 to 25 cigarettes per day | 1.18479 | 0.617082 |
| diabetes | 309588 | 0 | 0 cigarettes per day | 1 to 15 cigarettes per day | 0.122218 | 0.893986 |
| diabetes | 309588 | 0 | 0 cigarettes per day | 26 to 39 cigarettes per day | 1.166271 | 0.697756 |
| diabetes | 309592 | 0 | 0 cigarettes per day | 1 to 14 cigarettes per day | -0.3285 | 0.262188 |
| diabetes | 309592 | 0 | 0 cigarettes per day | 15 to 22.5 cigarettes per day | 0.270027 | 0.089578 |
| diabetes | 309592 | 0 | 0 cigarettes per day | 15 to 22.5 cigarettes per day | 0.336472 | 0.103863 |
| diabetes | 309592 | 0 | 0 cigarettes per day | 1 to 14 cigarettes per day | 0.385262 | 0.118006 |
| diabetes | 309610 | 0 | 0 cigarettes per day | 20 to 30 cigarettes per day | 0.438255 | 0.014812 |
| diabetes | 309610 | 0 | 0 cigarettes per day | 20 to 30 cigarettes per day | 0.582216 | 0.038479 |
| diabetes | 309610 | 0 | 0 cigarettes per day | 10 to 19 cigarettes per day | 0.500775 | 0.103587 |
| diabetes | 309610 | 0 | 0 cigarettes per day | 10 to 19 cigarettes per day | 0.457425 | 0.03875 |
| diabetes | 309610 | 0 | 0 cigarettes per day | 20 to 30 cigarettes per day | 0.451076 | 0.165735 |
| diabetes | 309610 | 1 | 0 cigarettes per day | 1 to 9 cigarettes per day | 0.405465 | 0.040816 |
| diabetes | 309610 | 0 | 0 cigarettes per day | 20 to 30 cigarettes per day | 0.285179 | 0.072886 |
| diabetes | 309610 | 0 | 0 cigarettes per day | 10 to 19 cigarettes per day | 0.314811 | 0.013034 |
| diabetes | 309610 | 0 | 0 cigarettes per day | 1 to 9 cigarettes per day | 0.29267 | 0.036171 |
| diabetes | 309610 | 0 | 0 cigarettes per day | 1 to 9 cigarettes per day | 0.357674 | 0.083845 |
| diabetes | 348079 | 0 | 0 cigarettes per day | 1 to 14 cigarettes per day | 0.314811 | 0.309102 |
| diabetes | 348079 | 0 | 0 cigarettes per day | 25 to 37.5 cigarettes per day | 0.662688 | 0.234063 |
| diabetes | 348079 | 0 | 0 cigarettes per day | 15 to 24 cigarettes per day | 0.8671 | 0.216515 |
| diabetes | 348081 | 0 | 0 cigarettes per day | 1 to 20 cigarettes per day | 0.336472 | 0.147595 |
| diabetes | 348081 | 0 | 0 cigarettes per day | 31 to 46.5 cigarettes per day | 0.548121 | 0.188746 |
| diabetes | 348081 | 0 | 0 cigarettes per day | 21 to 30 cigarettes per day | 0.336472 | 0.165816 |
| diabetes | 348083 | 0 | 0 cigarettes per day | 0 to 19 cigarettes per day | 0.405465 | 0.204082 |
| diabetes | 348083 | 0 | 0 cigarettes per day | 20 to 30 cigarettes per day | 0.530628 | 0.15006 |
| diabetes | 348085 | 0 | 0 cigarettes per day | 1 to 20 cigarettes per day | 0.631272 | 0.582121 |
| diabetes | 348085 | 0 | 0 cigarettes per day | 21 to 30 cigarettes per day | 1.105257 | 0.573557 |
| diabetes | 348085 | 0 | 0 cigarettes per day | 31 to 46.5 cigarettes per day | 1.408545 | 0.540766 |
| diabetes | 348088 | 0 | 0 cigarettes per day | 20 to 30 cigarettes per day | 0.536493 | 0.18797 |
| diabetes | 348088 | 0 | 0 cigarettes per day | 1 to 19 cigarettes per day | 0.582216 | 0.210922 |
| diabetes | 348091 | 0 | 0 cigarettes per day | 0 to 19 cigarettes per day | 0.04879 | 0.114189 |
| diabetes | 348091 | 0 | 0 cigarettes per day | 20 to 30 cigarettes per day | 0.494696 | 0.197549 |
| diabetes | 348100 | 0 | 0 cigarettes per day | 0 to 19 cigarettes per day | 0.378436 | 0.103089 |
| Diabetes Code | Cigarettes per Day | Cigarettes per Day | Score | P-value |
|---------------|--------------------|--------------------|-------|---------|
| 348100        | 0                  | 0 to 19 cigarettes per day | 0.329304 | 0.108281 |
| 348100        | 0                  | 20 to 30 cigarettes per day | 0.322083 | 0.101671 |
| 348105        | 0                  | 0 to 19 cigarettes per day | 0.198851 | 0.081549 |
| 348105        | 0                  | 20 to 30 cigarettes per day | 0.625938 | 0.167794 |
| 348108        | 0                  | 0 to 19 cigarettes per day | 0.198851 | 0.081549 |
| 348108        | 0                  | 20 to 30 cigarettes per day | 0.625938 | 0.167794 |
| 348108        | 0                  | 1 to 14 cigarettes per day | -0.0202 | 0.026031 |
| 348108        | 0                  | 15 to 19 cigarettes per day | 0.04879 | 0.034014 |
| 356075        | 1                  | 0 to 19 cigarettes per day | 0.173953 | 0.027868 |
| 356075        | 0                  | 20 to 39 cigarettes per day | 0.19062 | 0.031624 |
| 356075        | 0                  | 40 to 60 cigarettes per day | 0.553885 | 0.07917 |
| 356095        | 0                  | 1 to 10 cigarettes per day | 0.371564 | 0.040464 |
| 356095        | 0                  | 11 to 20 cigarettes per day | 0.307485 | 0.056273 |
| 356095        | 0                  | 21 to 31.5 cigarettes per day | 0.405465 | 0.093537 |
| 356097        | 0                  | 20 to 29 cigarettes per day | 0.371564 | 0.040464 |
| 356097        | 0                  | 30 to 45 cigarettes per day | 0.832909 | 0.236247 |
| 356099        | 1                  | 1 to 19 cigarettes per day | -0.21072 | 0.085034 |
| 356099        | 1                  | 20 to 30 cigarettes per day | -0.22314 | 0.082908 |
| 356101        | 0                  | 0 to 19 cigarettes per day | 0.086178 | 0.231698 |
| 356101        | 0                  | 20 to 30 cigarettes per day | 0.536493 | 0.361022 |
| 356101        | 0                  | 20 to 30 cigarettes per day | 0.563514 | 0.647901 |
| 356101        | 0                  | 0 to 19 cigarettes per day | 0.563514 | 0.239158 |
| 356103        | 0                  | 15 to 24 cigarettes per day | 0.24686 | 0.145488 |
| 356103        | 0                  | 25 to 37.5 cigarettes per day | 0.182322 | 0.055272 |
| 356103        | 0                  | 0 to 14 cigarettes per day | 0.173953 | 0.083605 |
| 356103        | 0                  | 26 to 39 cigarettes per day | 0.157004 | 0.390284 |
| 356103        | 0                  | 26 to 39 cigarettes per day | 0.173953 | 0.057888 |
| 356103        | 1                  | 15 to 24 cigarettes per day | 0.019803 | 0.045018 |
| 356103        | 0                  | 0 to 14 cigarettes per day | 0.058269 | 0.045726 |
| 356105        | 0                  | 0 to 19 cigarettes per day | 0.239017 | 0.064278 |
| 356105        | 0                  | 0 to 19 cigarettes per day | 0.357674 | 0.074925 |
| 356105        | 0                  | 20 to 30 cigarettes per day | 0.609766 | 0.091504 |
| Disease               | Total Cases | Group 1 | Group 2 | Odds Ratio | 95% CI       |
|----------------------|-------------|---------|---------|------------|--------------|
| Diabetes             | 356105      | 0       | 0       | 0.636577   | 0.079635     |
| Diabetes             | 413800      | 0       | 0       | 0.262364   | 0.431711     |
| Diabetes             | 502053      | 1       | 0       | 0.277632   | 0.011598     |
| Diabetes             | 502177      | 0       | 0       | 0.010100   | 0.213329     |
| Diabetes             | 502177      | 0       | 0       | 0.512824   | 0.22942      |
| Esophageal cancer    | 298512      | 0       | 0       | 0.727549   | 0.361086     |
| Esophageal cancer    | 298512      | 0       | 0       | 0.996949   | 0.34547      |
| Esophageal cancer    | 298512      | 0       | 0       | 1.085682   | 0.332406     |
| Esophageal cancer    | 298512      | 0       | 0       | 1.570697   | 0.308138     |
| Esophageal cancer    | 309841      | 0       | 0       | -0.22314   | 0.414541     |
| Esophageal cancer    | 309841      | 0       | 0       | 0         | 0.280612     |
| Esophageal cancer    | 309841      | 0       | 0       | 0.587787   | 0.212585     |
| Esophageal cancer    | 309841      | 0       | 0       | 0.875469   | 0.28699      |
| Esophageal cancer    | 309841      | 0       | 0       | 1.335001   | 0.20811      |
| Esophageal cancer    | 328266      | 0       | 0       | 0.741937   | 0.619534     |
| Esophageal cancer    | 328339      | 0       | 0       | 1.48614    | 0.343984     |
| Esophageal cancer    | 328339      | 0       | 0       | 1.477049   | 0.484577     |
| Esophageal cancer    | 328339      | 0       | 0       | 1.22083    | 1.900849     |
| Esophageal cancer    | 328339      | 0       | 0       | 0.698135   | 0.552087     |
| Esophageal cancer    | 328339      | 0       | 0       | 0.506818   | 1.902508     |
| Esophageal cancer    | 328339      | 0       | 0       | 1.115142   | 0.384744     |
| Esophageal cancer    | 339730      | 0       | 0       | 0.815365   | 1.365812     |
| Esophageal cancer    | 339730      | 0       | 0       | 1.701105   | 2.201884     |
| Esophageal cancer    | 343383      | 0       | 0       | 1.648659   | 0.575098     |
| Esophageal cancer    | 343383      | 0       | 0       | 2.066863   | 0.52703      |
| Esophageal cancer    | 343383      | 0       | 0       | 2.827314   | 0.720553     |
| Esophageal cancer    | 343580      | 0       | 0       | 1.029619   | 0.493071     |
| Esophageal cancer    | 343580      | 0       | 0       | 1.131402   | 0.48075      |
| Esophageal cancer    | 343580      | 0       | 0       | 0.530628   | 0.525099     |
| Esophageal cancer    | 343580      | 0       | 0       | 0.832909   | 0.475311     |
| Esophageal cancer    | 345310      | 0       | 0       | 1.175573   | 0.695232     |
| Esophageal cancer    | 345310      | 0       | 0       | 1.348073   | 0.536708     |
| Esophageal cancer    | 345310      | 0       | 0       | 1.581038   | 0.47766      |
| Esophageal cancer    | 345310      | 0       | 0       | 1.587192   | 0.526376     |
| Esophageal cancer    | 345324      | 1       | 0       | 1.983756   | 0.474763     |
| Esophageal cancer    | 345324      | 0       | 0       | 2.844909   | 0.564932     |
| Esophageal cancer    | 345328      | 0       | 0       | 1.633154   | 0.474962     |
| Esophageal cancer    | 345328      | 0       | 0       | 1.358409   | 0.379211     |
| Esophageal cancer    | 439528      | 0       | 0       | 0.647103   | 0.038706     |
| Esophageal cancer    | 439528      | 0       | 0       | 0.392042   | 0.043048     |
| esophageal_cancer       | 500795 | 0  | 0 pack-years | 1 to 5 pack-years | 0.182322 | 0.20687  |
|-------------------------|--------|----|--------------|-------------------|----------|----------|
| esophageal_cancer       | 500795 | 0  | 0 pack-years | 5 to 9 pack-years | 0.09531  | 0.254727 |
| esophageal_cancer       | 500795 | 0  | 0 pack-years | 15 to 22.5 pack-years | 0.587787 | 0.247296 |
| esophageal_cancer       | 502130 | 0  | 0 pack-years | 10 to 19 pack-years | 0.122218 | 1.036997 |
| esophageal_cancer       | 502130 | 0  | 0 pack-years | 20 to 29 pack-years | 1.261298 | 0.644523 |
| esophageal_cancer       | 502130 | 0  | 0 pack-years | 30 to 45 pack-years | 1.774952 | 0.474365 |
| esophageal_cancer       | 502488 | 1  | 0.1 pack-years | 2 to 2.9 pack-years | 2.047693 | 0.716361 |
| esophageal_cancer       | 502488 | 1  | 0.1 pack-years | 3 to 4.5 pack-years | 1.7613  | 0.784888 |
| gallbladder_diseases    | 350721 | 0  | 0 cigarettes per day | 15 to 24 cigarettes per day | 0.029559 | 0.071825 |
| gallbladder_diseases    | 350721 | 0  | 0 cigarettes per day | 1 to 14 cigarettes per day | 0.09531 | 0.083488 |
| gallbladder_diseases    | 350721 | 0  | 0 cigarettes per day | 25 to 34 cigarettes per day | 0.270027 | 0.09542 |
| gallbladder_diseases    | 350721 | 0  | 0 cigarettes per day | 35 to 52.5 cigarettes per day | 0.41211 | 0.11657 |
| gallbladder_diseases    | 350723 | 0  | 0 cigarettes per day | 1 to 9 cigarettes per day | 0.113329 | 0.031888 |
| gallbladder_diseases    | 350723 | 0  | 0 cigarettes per day | 10 to 19 cigarettes per day | 0.207014 | 0.022814 |
| gallbladder_diseases    | 350723 | 0  | 0 cigarettes per day | 20 to 30 cigarettes per day | 0.254642 | 0.029663 |
| gallbladder_diseases    | 350725 | 0  | 0 cigarettes per day | 20 to 30 cigarettes per day | 0.41871 | 0.203075 |
| gallbladder_diseases    | 351491 | 0  | 0 cigarettes per day | 15 to 22.5 cigarettes per day | 0.647103 | 0.126883 |
| gallbladder_diseases    | 351491 | 1  | 0 cigarettes per day | 1 to 14 cigarettes per day | 0.698135 | 0.120571 |
| hip_fracture            | 132098 | 0  | NA | NA | 0.307485 | 0.172848 |
| hip_fracture            | 132098 | 0  | NA | NA | 0.113329 | 0.258061 |
| hip_fracture            | 165283 | 0  | NA | NA | -0.24846 | 0.274394 |
| hip_fracture            | 261365 | 0  | NA | NA | 0.587787 | 0.225099 |
| hip_fracture            | 261365 | 0  | NA | NA | 0.587787 | 0.197242 |
| hip_fracture            | 261375 | 0  | NA | NA | 0.307485 | 0.098838 |
| hip_fracture            | 261375 | 0  | NA | NA | 0.463734 | 0.216948 |
| hip_fracture            | 261377 | 0  | NA | NA | 0.604316 | 0.171908 |
| hip_fracture            | 261377 | 0  | NA | NA | 0.802002 | 0.390152 |
| hip_fracture            | 261381 | 0  | NA | NA | 0.788457 | 0.353647 |
| hip_fracture            | 261381 | 0  | NA | NA | 0.875469 | 0.342789 |
| hip_fracture            | 261387 | 0  | NA | NA | 0.076991 | 0.459964 |
| hip_fracture            | 261399 | 0  | NA | NA | -0.31471 | 0.565197 |
| hip_fracture            | 261399 | 0  | NA | NA | -0.31471 | 0.565197 |
| hip_fracture            | 261411 | 0  | NA | NA | 0.371564 | 0.263926 |
| hip_fracture            | 261418 | 0  | NA | NA | 0.336472 | 0.239354 |
| hip_fracture            | 261424 | 0  | NA | NA | 0.198851 | 0.240374 |
| hip_fracture            | 261426 | 0  | NA | NA | 0.530628 | 0.209434 |
| hip_fracture            | 261429 | 0  | NA | NA | 0.113329 | 0.093807 |
| hip_fracture            | 261429 | 0  | NA | NA | 0.04879 | 0.210887 |
| hip_fracture            | 261433 | 0  | NA | NA | 0.176471 | 0.349905 |
| hip_fracture            | 261473 | 0  | NA | NA | 0.04879 | 0.214558 |
| hip_fracture            | 261498 | 0  | NA | NA | 0.09531 | 0.142759 |
| hip_fracture            | 315458 | 0  | NA | NA | 0.756122 | 0.333323 |
| hip_fracture            | 315458 | 0  | NA | NA | 0.438255 | 0.422302 |
| Diagnosis   | Code   | Value 1 | Value 2 | Value 3 | Value 4 |
|-------------|--------|---------|---------|---------|---------|
| hip fracture| 394006 | 0       | NA      | NA      | 0.524729 | 0.193836 |
| hip fracture| 394006 | 0       | NA      | NA      | 0.122218 | 0.062975 |
| hip fracture| 394006 | 0       | NA      | NA      | 0.00995  | 0.075578 |
| hip fracture| 394006 | 0       | NA      | NA      | 0.398776 | 0.109042 |
| hip fracture| 394006 | 0       | NA      | NA      | 0.431782 | 0.121737 |
| hip fracture| 394006 | 0       | NA      | NA      | 0.122218 | 0.054386 |
| hip fracture| 394006 | 0       | NA      | NA      | 0.438255 | 0.147737 |
| hip fracture| 394006 | 1       | NA      | NA      | 0.019803 | 0.06474  |
| hip fracture| 394006 | 0       | NA      | NA      | 0.470004 | 0.118388 |
| hip fracture| 414192 | 0       | NA      | NA      | 1.128171 | 0.317378 |
| hip fracture| 414192 | 0       | NA      | NA      | 0.71784  | 0.33921  |
| hip fracture| 414192 | 1       | NA      | NA      | 1.477049 | 0.385339 |
| hip fracture| 414201 | 0       | NA      | NA      | 0.29267  | 0.155328 |
| hip fracture| 414201 | 0       | NA      | NA      | 0.385262 | 0.170676 |
| hip fracture| 414201 | 0       | NA      | NA      | 0.916291 | 0.233748 |
| hip fracture| 414201 | 0       | NA      | NA      | -0.19845 | 0.345939 |
| hip fracture| 414201 | 0       | NA      | NA      | 0.113329 | 0.284213 |
| hip fracture| 414201 | 0       | NA      | NA      | 0.207014 | 0.421664 |
| hip fracture| 414206 | 0       | NA      | NA      | 0.845868 | 0.158262 |
| hip fracture| 414208 | 0       | NA      | NA      | 0.774727 | 0.246375 |
| hip fracture| 414210 | 1       | NA      | NA      | -0.37106 | 0.263102 |
| hip fracture| 414210 | 0       | NA      | NA      | -0.37106 | 0.604994 |
| hip fracture| 414210 | 0       | NA      | NA      | -0.23572 | 0.400452 |
| hip fracture| 414212 | 0       | NA      | NA      | 0.788457 | 0.273632 |
| hip fracture| 414212 | 0       | NA      | NA      | 0.749137 | 0.753804 |
| hip fracture| 414212 | 0       | NA      | NA      | 0.832909 | 0.254727 |
| hip fracture| 414212 | 0       | NA      | NA      | 1.163151 | 0.762389 |
| hip fracture| 414214 | 0       | NA      | NA      | 0.262364 | 0.258061 |
| hip fracture| 414214 | 0       | NA      | NA      | 0.405465 | 0.260625 |
| hip fracture| 414220 | 0       | NA      | NA      | 0.300105 | 0.097288 |
| hip fracture| 414223 | 0       | NA      | NA      | 0.912283 | 0.221079 |
| hip fracture| 414225 | 1       | NA      | NA      | 1.722767 | 0.574309 |
| hip fracture| 414227 | 0       | NA      | NA      | 0.002996 | 0.447524 |
| hip fracture| 414227 | 0       | NA      | NA      | -0.15082 | 0.329899 |
| hip fracture| 414227 | 1       | NA      | NA      | -0.27444 | 0.210249 |
| hip fracture| 414229 | 0       | NA      | NA      | 0.788457 | 0.53832 |
| hip fracture| 498367 | 0       | NA      | NA      | 0.804241 | 0.206508 |
| hip fracture| 498378 | 0       | NA      | NA      | 0.936093 | 0.276764 |
| hip fracture| 498383 | 0       | NA      | NA      | 0.530628 | 0.625256 |
| hip fracture| 498389 | 1       | NA      | NA      | -0.69315 | 0.216147 |
| hip fracture| 498389 | 0       | NA      | NA      | -0.35667 | 0.176823 |
| hip fracture| 498391 | 0       | NA      | NA      | 0.24686  | 0.348693 |
| hip fracture| 498391 | 0       | NA      | NA      | 0.24686  | 0.274525 |
| hip_fRACTure | 498391 | 0 | NA | NA | 0.41211 | 0.329978 |
| hip_fRACTure | 498391 | 0 | NA | NA | 0.086178 | 0.277544 |
| hip_fRACTure | 498392 | 0 | NA | NA | 0.392042 | 0.141454 |
| hip_fRACTure | 498392 | 0 | NA | NA | 0.198851 | 0.111968 |
| hip_fRACTure | 498396 | 0 | NA | NA | 0.741937 | 0.229792 |
| hip_fRACTure | 498406 | 0 | NA | NA | 0.24686 | 0.22617 |
| hip_fRACTure | 498406 | 0 | NA | NA | 0.722706 | 0.259553 |
| hip_fRACTure | 498406 | 0 | NA | NA | -0.08338 | 0.159087 |
| hip_fRACTure | 498406 | 0 | NA | NA | 0.314811 | 0.475311 |
| hip_fRACTure | 498406 | 0 | NA | NA | 0.371564 | 0.117111 |
| hip_fRACTure | 498406 | 0 | NA | NA | 0.559616 | 0.12013 |
| hip_fRACTure | 498410 | 0 | NA | NA | 0.405465 | 0.18927 |
| hip_fRACTure | 498418 | 1 | NA | NA | 1.108563 | 0.31012 |
| hip_fRACTure | 498418 | 1 | NA | NA | 0.996949 | 0.192127 |
| hip_fRACTure | 498421 | 0 | NA | NA | 0.672944 | 0.149366 |
| hip_fRACTure | 498421 | 0 | NA | NA | 0.039221 | 0.09245 |
| hip_fRACTure | 498421 | 0 | NA | NA | 0.113329 | 0.063538 |
| hip_fRACTure | 498421 | 0 | NA | NA | 0.113329 | 0.152663 |
| hip_fRACTure | 498421 | 0 | NA | NA | 0.336472 | 0.187132 |
| hip_fRACTure | 498421 | 0 | NA | NA | 0.223144 | 0.057384 |
| hip_fRACTure | 498421 | 0 | NA | NA | 0.615186 | 0.1378 |
| hip_fRACTure | 498421 | 0 | NA | NA | 0.131028 | 0.186331 |
| hip_fRACTure | 498421 | 0 | NA | NA | 0.457425 | 0.19615 |
| hip_fRACTure | 498421 | 0 | NA | NA | 0.165514 | 0.130873 |
| hip_fRACTure | 498421 | 0 | NA | NA | 0.760806 | 0.175977 |
| hip_fRACTure | 498421 | 0 | NA | NA | 0.113329 | 0.115563 |
| hip_fRACTure | 498427 | 0 | NA | NA | -0.06188 | 0.219117 |
| hip_fRACTure | 498442 | 0 | NA | NA | 0.444045 | 0.313528 |
| hip_fRACTure | 498444 | 1 | NA | NA | 1.506962 | 0.025597 |
| hip_fRACTure | 498444 | 1 | NA | NA | 1.542015 | 0.031475 |
| hip_fRACTure | 498446 | 0 | NA | NA | 0.390013 | 0.18977 |
| hip_fRACTure | 498453 | 0 | NA | NA | 0.09531 | 0.17187 |
| hip_fRACTure | 501885 | 0 | NA | NA | 0.778774 | 0.137214 |
| hip_fRACTure | 501885 | 0 | NA | NA | 0.162799 | 0.156121 |
| hip_fRACTure | 501889 | 0 | NA | NA | 0.211314 | 0.096016 |
| hip_fRACTure | 501889 | 1 | NA | NA | -0.26945 | 0.081555 |
| hip_fRACTure | 501903 | 0 | NA | NA | 0.14842 | 0.028496 |
| hip_fRACTure | 501925 | 0 | NA | NA | 0.336472 | 0.188392 |
| hip_fRACTure | 501925 | 0 | NA | NA | 0.48858 | 0.368541 |
| hip_fRACTure | 501929 | 0 | NA | NA | 0.198851 | 0.144339 |
| hip_fRACTure | 501929 | 0 | NA | NA | 0.378436 | 0.223334 |
| hip_fRACTure | 501938 | 1 | NA | NA | -0.35027 | 0.01318 |
| hip_fRACTure | 501938 | 1 | NA | NA | -0.31334 | 0.019259 |
| Diagnosis       | Code     | Year | Confirmed | SPC | EV | PV | MV |
|-----------------|----------|------|-----------|-----|----|----|----|
| hip_fracture    | 501938   | 0    | NA        | NA  | 0.339468 | 0.046156 |
| hip_fracture    | 501952   | 0    | NA        | NA  | 0.405465 | 0.138244 |
| hip_fracture    | 501954   | 0    | NA        | NA  | 0.39346 | 0.111003 |
| hip_fracture    | 501956   | 0    | NA        | NA  | 0.584615 | 0.301446 |
| hip_fracture    | 501960   | 0    | NA        | NA  | -0.09475 | 0.163795 |
| hip_fracture    | 501967   | 0    | NA        | NA  | 0.506818 | 0.131109 |
| hip_fracture    | 501969   | 0    | NA        | NA  | 0.076127 | 0.032036 |
| hip_fracture    | 132098   | 0    | NA        | NA  | 0.307485 | 0.172848 |
| hip_fracture    | 132098   | 0    | NA        | NA  | 0.113329 | 0.258061 |
| hip_fracture    | 165283   | 0    | NA        | NA  | -0.24846 | 0.274394 |
| hip_fracture    | 261365   | 0    | NA        | NA  | 0.587787 | 0.225099 |
| hip_fracture    | 261365   | 0    | NA        | NA  | 0.587787 | 0.197242 |
| hip_fracture    | 261375   | 0    | NA        | NA  | 0.307485 | 0.098838 |
| hip_fracture    | 261375   | 0    | NA        | NA  | 0.463734 | 0.216498 |
| hip_fracture    | 261377   | 0    | NA        | NA  | 0.604316 | 0.171908 |
| hip_fracture    | 261377   | 0    | NA        | NA  | 0.802002 | 0.390152 |
| hip_fracture    | 261381   | 0    | NA        | NA  | 0.788457 | 0.353647 |
| hip_fracture    | 261381   | 0    | NA        | NA  | 0.875469 | 0.342789 |
| hip_fracture    | 261387   | 0    | NA        | NA  | 0.076961 | 0.459964 |
| hip_fracture    | 261399   | 0    | NA        | NA  | -0.31471 | 0.565197 |
| hip_fracture    | 261399   | 0    | NA        | NA  | -0.31471 | 0.565197 |
| hip_fracture    | 261411   | 0    | NA        | NA  | 0.371564 | 0.263926 |
| hip_fracture    | 261418   | 0    | NA        | NA  | 0.336472 | 0.239354 |
| hip_fracture    | 261424   | 0    | NA        | NA  | 0.198851 | 0.240374 |
| hip_fracture    | 261426   | 0    | NA        | NA  | 0.530628 | 0.209434 |
| hip_fracture    | 261429   | 0    | NA        | NA  | 0.113329 | 0.093807 |
| hip_fracture    | 261429   | 0    | NA        | NA  | 0.04879 | 0.210887 |
| hip_fracture    | 261433   | 0    | NA        | NA  | 0.176471 | 0.349905 |
| hip_fracture    | 261473   | 0    | NA        | NA  | 0.04879 | 0.214558 |
| hip_fracture    | 261498   | 0    | NA        | NA  | 0.09531 | 0.142759 |
| hip_fracture    | 315458   | 0    | NA        | NA  | 0.756122 | 0.333323 |
| hip_fracture    | 315458   | 0    | NA        | NA  | 0.438255 | 0.422302 |
| hip_fracture    | 394006   | 0    | NA        | NA  | 0.524729 | 0.193836 |
| hip_fracture    | 394006   | 0    | NA        | NA  | 0.122218 | 0.062975 |
| hip_fracture    | 394006   | 0    | NA        | NA  | 0.00995 | 0.075578 |
| hip_fracture    | 394006   | 0    | NA        | NA  | 0.398776 | 0.109042 |
| hip_fracture    | 394006   | 0    | NA        | NA  | 0.431782 | 0.121737 |
| hip_fracture    | 394006   | 0    | NA        | NA  | 0.122218 | 0.054386 |
| hip_fracture    | 394006   | 0    | NA        | NA  | 0.438255 | 0.147737 |
| hip_fracture    | 394006   | 0    | NA        | NA  | 0.019803 | 0.06474 |
| hip_fracture    | 394006   | 0    | NA        | NA  | 0.470004 | 0.118388 |
| hip_fracture    | 414192   | 0    | NA        | NA  | 1.128171 | 0.317378 |
| hip_fracture    | 414192   | 0    | NA        | NA  | 0.71784 | 0.339921 |
| Diagnosis   | Code   | Type | Year | Gender | BMI   | Weight |
|------------|--------|------|------|--------|-------|--------|
| hip fracture | 414194 | 1    | NA   | NA     | 1.477049 | 0.385339 |
| hip fracture | 414201 | 0    | NA   | NA     | 0.29267 | 0.155328 |
| hip fracture | 414201 | 0    | NA   | NA     | 0.385262 | 0.170676 |
| hip fracture | 414201 | 0    | NA   | NA     | 0.916291 | 0.233748 |
| hip fracture | 414201 | 0    | NA   | NA     | -0.19845 | 0.345939 |
| hip fracture | 414201 | 0    | NA   | NA     | 0.113329 | 0.284213 |
| hip fracture | 414201 | 0    | NA   | NA     | 0.207014 | 0.421664 |
| hip fracture | 414206 | 0    | NA   | NA     | 0.845868 | 0.158262 |
| hip fracture | 414208 | 0    | NA   | NA     | 0.774727 | 0.246375 |
| hip fracture | 414210 | 1    | NA   | NA     | -0.37106 | 0.263102 |
| hip fracture | 414210 | 0    | NA   | NA     | -0.37106 | 0.604994 |
| hip fracture | 414210 | 0    | NA   | NA     | 0.373972 | 0.400452 |
| hip fracture | 414212 | 0    | NA   | NA     | 0.788457 | 0.273632 |
| hip fracture | 414212 | 0    | NA   | NA     | 0.741937 | 0.753804 |
| hip fracture | 414212 | 0    | NA   | NA     | 0.832909 | 0.254727 |
| hip fracture | 414212 | 0    | NA   | NA     | 1.163151 | 0.762389 |
| hip fracture | 414214 | 0    | NA   | NA     | 0.262364 | 0.258061 |
| hip fracture | 414214 | 0    | NA   | NA     | 0.405465 | 0.260625 |
| hip fracture | 414220 | 0    | NA   | NA     | 0.300105 | 0.097288 |
| hip fracture | 414223 | 0    | NA   | NA     | 0.912283 | 0.221079 |
| hip fracture | 414225 | 1    | NA   | NA     | 1.722767 | 0.574309 |
| hip fracture | 414227 | 0    | NA   | NA     | 0.002996 | 0.447524 |
| hip fracture | 414227 | 0    | NA   | NA     | -0.15082 | 0.329899 |
| hip fracture | 414227 | 1    | NA   | NA     | -0.27444 | 0.210249 |
| hip fracture | 414229 | 0    | NA   | NA     | 0.788457 | 0.53832 |
| hip fracture | 498367 | 0    | NA   | NA     | 0.804241 | 0.206508 |
| hip fracture | 498378 | 0    | NA   | NA     | 0.936093 | 0.276764 |
| hip fracture | 498383 | 0    | NA   | NA     | 0.530628 | 0.625256 |
| hip fracture | 498389 | 1    | NA   | NA     | -0.69315 | 0.216147 |
| hip fracture | 498389 | 0    | NA   | NA     | -0.35667 | 0.176823 |
| hip fracture | 498391 | 0    | NA   | NA     | 0.24686 | 0.348693 |
| hip fracture | 498391 | 0    | NA   | NA     | 0.24686 | 0.274525 |
| hip fracture | 498391 | 0    | NA   | NA     | 0.41211 | 0.329978 |
| hip fracture | 498391 | 0    | NA   | NA     | 0.086178 | 0.277544 |
| hip fracture | 498392 | 0    | NA   | NA     | 0.392042 | 0.141454 |
| hip fracture | 498392 | 0    | NA   | NA     | 0.198851 | 0.111968 |
| hip fracture | 498396 | 0    | NA   | NA     | 0.741937 | 0.229792 |
| hip fracture | 498406 | 0    | NA   | NA     | 0.24686 | 0.22617 |
| hip fracture | 498406 | 0    | NA   | NA     | 0.722706 | 0.259553 |
| hip fracture | 498406 | 0    | NA   | NA     | -0.08338 | 0.159087 |
| hip fracture | 498406 | 0    | NA   | NA     | 0.314811 | 0.475311 |
| hip fracture | 498406 | 0    | NA   | NA     | 0.371564 | 0.117111 |
| hip fracture | 498406 | 0    | NA   | NA     | 0.559616 | 0.12013 |
| Condition   | ID     | Age   | Sex | Smoking Status | pack-years | BMI   |
|-------------|--------|-------|-----|----------------|------------|-------|
| hip_fracture| 498410 | 0 NA  | NA  | 0 cigarettes per day | 0 NA       | 0.405465 |
| hip_fracture| 498418 | 1 NA  | NA  | 1 to 9 cigarettes per day | 0.18927   |
| hip_fracture| 498418 | 1 NA  | NA  | 10 to 15 cigarettes per day | 0.192127  |
| hip_fracture| 498421 | 0 NA  | NA  | 25 to 37.5 cigarettes per day | 0.095663  |
| hip_fracture| 498421 | 0 NA  | NA  | 1 to 4 cigarettes per day | 0.140547  |
| hip_fracture| 498427 | 0 NA  | NA  | 0 NA per day | 1.108563  |
| hip_fracture| 498427 | 0 NA  | NA  | 0 NA per day | 0.996949  |
| hip_fracture| 498427 | 0 NA  | NA  | 0 NA per day | 0.672944  |
| hip_fracture| 498427 | 0 NA  | NA  | 0 NA per day | 0.336472  |
| hip_fracture| 498427 | 0 NA  | NA  | 0 NA per day | 0.996949  |
| hip_fracture| 498427 | 0 NA  | NA  | 0 NA per day | 0.615186  |
| hip_fracture| 498427 | 0 NA  | NA  | 0 NA per day | 0.130281  |
| hip_fracture| 498442 | 0 NA  | NA  | 0 NA per day | 0.457425  |
| hip_fracture| 498442 | 0 NA  | NA  | 0 NA per day | 0.165514  |
| hip_fracture| 498442 | 0 NA  | NA  | 0 NA per day | 0.760806  |
| hip_fracture| 498442 | 0 NA  | NA  | 0 NA per day | 0.113329  |
| hip_fracture| 498442 | 0 NA  | NA  | 0 NA per day | -0.06188  |
| hip_fracture| 498442 | 0 NA  | NA  | 0 NA per day | 0.444045  |
| hip_fracture| 498444 | 1 NA  | NA  | 0 NA per day | 1.506962  |
| hip_fracture| 498444 | 1 NA  | NA  | 0 NA per day | 1.542015  |
| hip_fracture| 498446 | 0 NA  | NA  | 0 NA per day | 0.390013  |
| hip_fracture| 498453 | 0 NA  | NA  | 0 NA per day | 0.09531   |
| hip_fracture| 501885 | 0 NA  | NA  | 0 NA per day | 0.778774  |
| hip_fracture| 501885 | 0 NA  | NA  | 0 NA per day | 0.162799  |
| hip_fracture| 501885 | 0 NA  | NA  | 0 NA per day | 0.211314  |
| hip_fracture| 501889 | 1 NA  | NA  | 0 NA per day | -0.26945  |
| hip_fracture| 501903 | 0 NA  | NA  | 0 NA per day | 0.14842   |
| hip_fracture| 501925 | 0 NA  | NA  | 0 NA per day | 0.336472  |
| hip_fracture| 501925 | 0 NA  | NA  | 0 NA per day | 0.48858   |
| hip_fracture| 501929 | 0 NA  | NA  | 0 NA per day | 0.198851  |
| hip_fracture| 501929 | 0 NA  | NA  | 0 NA per day | 0.378436  |
| hip_fracture| 501938 | 1 NA  | NA  | 0 NA per day | -0.35027  |
| hip_fracture| 501938 | 1 NA  | NA  | 0 NA per day | -0.31334  |
| hip_fracture| 501938 | 1 NA  | NA  | 0 NA per day | 0.339468  |
| hip_fracture| 501952 | 0 NA  | NA  | 0 NA per day | 0.405465  |
| hip_fracture| 501952 | 0 NA  | NA  | 0 NA per day | 0.39346   |
| hip_fracture| 501956 | 0 NA  | NA  | 0 NA per day | 0.584615  |
| hip_fracture| 501960 | 0 NA  | NA  | 0 NA per day | -0.09475  |
| hip_fracture| 501967 | 0 NA  | NA  | 0 NA per day | 0.506818  |
| hip_fracture| 501969 | 0 NA  | NA  | 0 NA per day | 0.076127  |
| ihd         | 165539 | 0 NA  | NA  | 0 cigarettes per day | 0.182322  |
| ihd         | 165539 | 0 NA  | NA  | 1 to 4 cigarettes per day | 0.095663  |
| ihd         | 165539 | 0 NA  | NA  | 5 to 15 cigarettes per day | 0.070862  |
| ihd         | 174238 | 0 NA  | NA  | 25 to 37.5 cigarettes per day | 1.346372  |
| ihd         | 236194 | 0 NA  | NA  | 1 to 4 cigarettes per day | 0.97456   |
|   |   |   |   |   |
|---|---|---|---|---|
| ihd | 236194 | 0 | 0 cigarettes per day | 5 to 9 cigarettes per day | 0.982078 | 0.088856 |
| ihd | 236194 | 0 | 0 cigarettes per day | 1 to 4 cigarettes per day | 1.033184 | 0.27689 |
| ihd | 236194 | 1 | 0 cigarettes per day | 10 to 14 cigarettes per day | 1.175573 | 0.073224 |
| ihd | 236194 | 0 | 0 cigarettes per day | 5 to 9 cigarettes per day | 1.305626 | 0.163155 |
| ihd | 236194 | 0 | 0 cigarettes per day | 26 to 39 cigarettes per day | 1.358409 | 0.973847 |
| ihd | 236194 | 1 | 0 cigarettes per day | 15 to 19 cigarettes per day | 1.358409 | 0.077383 |
| ihd | 236194 | 0 | 0 cigarettes per day | 10 to 14 cigarettes per day | 1.393766 | 0.158885 |
| ihd | 236194 | 0 | 0 cigarettes per day | 26 to 39 cigarettes per day | 1.403643 | 0.315625 |
| ihd | 236194 | 1 | 0 cigarettes per day | 20 to 24 cigarettes per day | 1.410987 | 0.082753 |
| ihd | 236194 | 0 | 0 cigarettes per day | 20 to 24 cigarettes per day | 1.506297 | 0.315625 |
| ihd | 236194 | 1 | 0 cigarettes per day | 15 to 19 cigarettes per day | 1.757858 | 0.204521 |
| ihd | 236194 | 1 | 0 cigarettes per day | 21 to 31.5 cigarettes per day | 1.778336 | 0.034904 |
| ihd | 236197 | 1 | 0 cigarettes per day | 1 to 9 cigarettes per day | 1.160021 | 0.10396 |
| ihd | 236197 | 1 | 0 cigarettes per day | 10 to 19 cigarettes per day | 1.515127 | 0.026912 |
| ihd | 249384 | 1 | 0 cigarettes per day | 10 to 19 cigarettes per day | -0.23572 | 0.122707 |
| ihd | 249384 | 0 | 0 cigarettes per day | 20 to 30 cigarettes per day | -0.03046 | 0.228803 |
| ihd | 249384 | 0 | 0 cigarettes per day | 0 to 9 cigarettes per day | 0.09531 | 0.150742 |
| ihd | 249384 | 0 | 0 cigarettes per day | 10 to 19 cigarettes per day | 0.81093 | 0.124717 |
| ihd | 249384 | 0 | 0 cigarettes per day | 0 to 9 cigarettes per day | 0.875469 | 0.191327 |
| ihd | 249384 | 0 | 0 cigarettes per day | 20 to 30 cigarettes per day | 0.916291 | 0.163265 |
| ihd | 298268 | 0 | 0 cigarettes per day | 1 to 19 cigarettes per day | 0.832909 | 0.249556 |
| ihd | 298268 | 0 | 0 cigarettes per day | 20 to 29 cigarettes per day | 1.05779 | 0.204613 |
| ihd | 298268 | 0 | 0 cigarettes per day | 31 to 46.5 cigarettes per day | 1.48614 | 0.211815 |
| ihd | 309699 | 0 | 0 cigarettes per day | 0 to 20 cigarettes per day | 0.19062 | 0.267752 |
| ihd | 309699 | 0 | 0 cigarettes per day | 21 to 31.5 cigarettes per day | 0.231112 | 0.070862 |
| ihd | 309729 | 0 | 0 cigarettes per day | 10 to 15 cigarettes per day | 1.808289 | 0.2091 |
| ihd | 309729 | 0 | 0 cigarettes per day | 5 to 9 cigarettes per day | 2.451005 | 0.318878 |
| ihd | 309729 | 0 | 0 cigarettes per day | 5 to 9 cigarettes per day | 1.774952 | 0.410758 |
| ihd | 309729 | 0 | 0 cigarettes per day | 5 to 9 cigarettes per day | 1.360977 | 0.3663 |
| ihd | 309729 | 0 | 0 cigarettes per day | 10 to 15 cigarettes per day | 0.741937 | 0.340136 |
| ihd | 309729 | 0 | 0 cigarettes per day | 10 to 15 cigarettes per day | 1.740466 | 0.308808 |
| ihd | 328259 | 0 | 0 cigarettes per day | 1 to 7 cigarettes per day | 0.215111 | 0.059661 |
| ihd | 328259 | 0 | 0 cigarettes per day | 1 to 7 cigarettes per day | 0.385262 | 0.062474 |
| ihd | 328259 | 0 | 0 cigarettes per day | 8 to 15 cigarettes per day | 0.41871 | 0.060419 |
| ihd | 328259 | 0 | 0 cigarettes per day | 8 to 15 cigarettes per day | 0.425268 | 0.063359 |
| ihd | 328259 | 0 | 0 cigarettes per day | 8 to 15 cigarettes per day | 0.524729 | 0.08604 |
| ihd | 328259 | 0 | 0 cigarettes per day | 16 to 25 cigarettes per day | 0.530628 | 0.076531 |
| ihd | 328259 | 0 | 0 cigarettes per day | 27 to 40.5 cigarettes per day | 0.698135 | 0.159915 |
| ihd | 328259 | 0 | 0 cigarettes per day | 27 to 40.5 cigarettes per day | 0.722706 | 0.70958 |
| ihd | 328259 | 0 | 0 cigarettes per day | 16 to 25 cigarettes per day | 0.806476 | 0.228909 |
| ihd | 328274 | 0 | 0 cigarettes per day | 20 to 30 cigarettes per day | 0.693147 | 1.211735 |
| ihd | 328274 | 0 | 0 cigarettes per day | 1 to 19 cigarettes per day | 0.530628 | 1.42557 |
| ihd | 328460 | 0 | 0 cigarettes per day | 20 to 30 cigarettes per day | 1.10194 | 0.342396 |
| ihd     | 328460 | 0  | 0 cigarettes per day | 10 to 19 cigarettes per day | 0.751416 | 0.34174 |
|---------|--------|----|----------------------|-----------------------------|---------|---------|
| ihd     | 328460 | 0  | 0 cigarettes per day | 0 to 9 cigarettes per day   | 0.41211 | 0.45276 |
| ihd     | 328472 | 0  | 0 cigarettes per day | 0 to 19 cigarettes per day  | 0.587787| 1.346372|
| ihd     | 328472 | 0  | 0 cigarettes per day | 20 to 30 cigarettes per day | 0.741937| 1.154033|
| ihd     | 330932 | 0  | 0 cigarettes per day | 22 to 33 cigarettes per day | 1.893112| 0.981605|
| ihd     | 330932 | 0  | 0 cigarettes per day | 1 to 9 cigarettes per day   | 0.039221| 0.470958|
| ihd     | 330932 | 0  | 0 cigarettes per day | 1 to 9 cigarettes per day   | 0.09531 | 0.310761|
| ihd     | 330932 | 0  | 0 cigarettes per day | 10 to 20 cigarettes per day | 0.322083| 0.288376|
| ihd     | 330932 | 0  | 0 cigarettes per day | 22 to 33 cigarettes per day | 0.385262| 0.494586|
| ihd     | 330932 | 0  | 0 cigarettes per day | 1 to 9 cigarettes per day   | 0.891998| 0.600117|
| ihd     | 331705 | 0  | 0 cigarettes per day | 21 to 31.5 cigarettes per day| 1.061257| 0.062672|
| ihd     | 331705 | 0  | 0 cigarettes per day | 21 to 31.5 cigarettes per day| 1.111858| 0.085593|
| ihd     | 331705 | 0  | 0 cigarettes per day | 1 to 9 cigarettes per day   | 0.683097| 0.065708|
| ihd     | 331705 | 0  | 0 cigarettes per day | 1 to 9 cigarettes per day   | 0.841567| 0.084667|
| ihd     | 332104 | 0  | 0 cigarettes per day | 20 to 20 cigarettes per day | 0.751416| 0.117925|
| ihd     | 332104 | 0  | 0 cigarettes per day | 22 to 33 cigarettes per day | 0.832909| 0.108696|
| ihd     | 332104 | 0  | 0 cigarettes per day | 1 to 19 cigarettes per day  | 0.615186| 0.111693|
| ihd     | 334410 | 0  | 0 cigarettes per day | 1 to 14 cigarettes per day  | 0.24686 | 0.240047|
| ihd     | 334410 | 0  | 0 cigarettes per day | 25 to 37.5 cigarettes per day| 0.641854| 0.307381|
| ihd     | 335266 | 0  | 0 cigarettes per day | 1 to 14 cigarettes per day  | 0.500775| 0.153324|
| ihd     | 335266 | 0  | 0 cigarettes per day | 26 to 39 cigarettes per day | 0.604316| 0.276253|
| ihd     | 336216 | 0  | 0 cigarettes per day | 15 to 24 cigarettes per day | 0.524729| 0.256694|
| ihd     | 336216 | 0  | 0 cigarettes per day | 1 to 14 cigarettes per day  | 0.24686 | 0.240047|
| ihd     | 336319 | 0  | 0 cigarettes per day | 25 to 37.5 cigarettes per day| 0.641854| 0.307381|
| ihd     | 336319 | 0  | 0 cigarettes per day | 15 to 24 cigarettes per day | 0.500775| 0.242999|
| ihd     | 336319 | 0  | 0 cigarettes per day | 1 to 14 cigarettes per day  | 0.524729| 0.153324|
| ihd     | 336319 | 0  | 0 cigarettes per day | 25 to 37.5 cigarettes per day| 0.604316| 0.276253|
| ihd     | 336682 | 0  | 0 cigarettes per day | 1 to 14 cigarettes per day  | 0.6352 | 0.089881|
| ihd     | 336682 | 0  | 0 cigarettes per day | 15 to 24 cigarettes per day | 0.693147| 0.089286|
| ihd     | 336682 | 0  | 0 cigarettes per day | 26 to 39 cigarettes per day | 0.806476| 0.115024|
| ihd     | 336682 | 0  | 0 cigarettes per day | 1 to 14 cigarettes per day  | 0.81978 | 0.103389|
| ihd | 336682 | 0 | 0 cigarettes per day | 15 to 24 cigarettes per day | 1.291984 | 0.107928 |
|-----|--------|---|---------------------|-----------------------------|----------|----------|
| ihd | 336682 | 0 | 0 cigarettes per day | 26 to 39 cigarettes per day | 1.644805 | 0.201422 |
| ihd | 336801 | 0 | 0 cigarettes per day | 20 to 20 cigarettes per day | 0.524729 | 0.081512 |
| ihd | 336801 | 0 | 0 cigarettes per day | 21 to 31.5 cigarettes per day | 0.65752 | 0.085185 |
| ihd | 336801 | 0 | 0 cigarettes per day | 0 to 19 cigarettes per day | 0.385262 | 0.069416 |
| ihd | 336801 | 0 | 0 cigarettes per day | 0 to 19 cigarettes per day | 0.29267 | 0.097091 |
| ihd | 336801 | 0 | 0 cigarettes per day | 20 to 20 cigarettes per day | 0.223144 | 0.132449 |
| ihd | 336801 | 0 | 0 cigarettes per day | 21 to 31.5 cigarettes per day | 0.336472 | 0.210459 |
| ihd | 343310 | 0 | 0 cigarettes per day | 15 to 24 cigarettes per day | 1.147402 | 0.155491 |
| ihd | 343310 | 0 | 0 cigarettes per day | 1 to 2 cigarettes per day | -0.27444 | 0.986842 |
| ihd | 343310 | 0 | 0 cigarettes per day | 3 to 5 cigarettes per day | 0.029559 | 0.366554 |
| ihd | 343310 | 0 | 0 cigarettes per day | 1 to 2 cigarettes per day | 0.336472 | 0.976676 |
| ihd | 343310 | 0 | 0 cigarettes per day | 15 to 24 cigarettes per day | 0.476234 | 0.148942 |
| ihd | 343310 | 0 | 0 cigarettes per day | 10 to 14 cigarettes per day | 0.518794 | 0.162476 |
| ihd | 343310 | 0 | 0 cigarettes per day | 26 to 39 cigarettes per day | 0.672944 | 0.1692 |
| ihd | 343310 | 0 | 0 cigarettes per day | 6 to 9 cigarettes per day | 0.741937 | 0.21137 |
| ihd | 343310 | 0 | 0 cigarettes per day | 3 to 5 cigarettes per day | 0.768086 | 0.360004 |
| ihd | 343310 | 0 | 0 cigarettes per day | 6 to 9 cigarettes per day | 0.891998 | 0.251966 |
| ihd | 343310 | 0 | 0 cigarettes per day | 10 to 14 cigarettes per day | 1.12493 | 0.159025 |
| ihd | 343310 | 0 | 0 cigarettes per day | 26 to 39 cigarettes per day | 1.238374 | 0.33496 |
| ihd | 343312 | 0 | 0 cigarettes per day | 21 to 31.5 cigarettes per day | 1.415853 | 0.492867 |
| ihd | 343312 | 0 | 0 cigarettes per day | 1 to 2 cigarettes per day | 0.636577 | 0.36983 |
| ihd | 343312 | 0 | 0 cigarettes per day | 10 to 19 cigarettes per day | 1.22083 | 0.377009 |
| ihd | 343400 | 0 | 0 cigarettes per day | 1 to 4 cigarettes per day | 0.662688 | 0.234162 |
| ihd | 343400 | 0 | 0 cigarettes per day | 5 to 14 cigarettes per day | 0.928219 | 0.129792 |
| ihd | 343400 | 1 | 0 cigarettes per day | 15 to 24 cigarettes per day | 1.439835 | 0.086652 |
| ihd | 343400 | 1 | 0 cigarettes per day | 25 to 34 cigarettes per day | 1.60342 | 0.103016 |
| ihd | 343400 | 0 | 0 cigarettes per day | 35 to 44 cigarettes per day | 1.717395 | 0.124753 |
| ihd | 343400 | 0 | 0 cigarettes per day | 45 to 67.5 cigarettes per day | 1.747459 | 0.273332 |
| ihd | 343461 | 0 | 0 cigarettes per day | 20 to 30 cigarettes per day | 0.667829 | 0.060178 |
| ihd | 343461 | 0 | 0 cigarettes per day | 1 to 9 cigarettes per day | 0.524729 | 0.08755 |
| ihd | 343461 | 0 | 0 cigarettes per day | 10 to 19 cigarettes per day | 0.81093 | 0.0839 |
| ihd | 343461 | 0 | 0 cigarettes per day | 10 to 19 cigarettes per day | 0.48858 | 0.061037 |
| ihd | 343461 | 0 | 0 cigarettes per day | 1 to 9 cigarettes per day | 0.518794 | 0.080479 |
| ihd | 343461 | 0 | 0 cigarettes per day | 20 to 30 cigarettes per day | 1.327075 | 0.133303 |
| ihd | 355955 | 0 | 0 cigarettes per day | 26 to 39 cigarettes per day | 1.007958 | 0.884478 |
| ihd | 355955 | 0 | 0 cigarettes per day | 26 to 39 cigarettes per day | 1.015231 | 0.878069 |
| ihd | 355955 | 0 | 0 cigarettes per day | 26 to 39 cigarettes per day | 0.904218 | 0.981162 |
| ihd | 355955 | 0 | 0 cigarettes per day | 26 to 39 cigarettes per day | 0.371564 | 1.671358 |
| ihd | 355955 | 0 | 0 cigarettes per day | 25 to 37.5 cigarettes per day | 0.751416 | 1.143146 |
| ihd | 355955 | 0 | 0 cigarettes per day | 15 to 24 cigarettes per day | 0.788457 | 1.101577 |
| ihd | 355955 | 0 | 0 cigarettes per day | 1 to 14 cigarettes per day | -0.04082 | 2.524447 |
| ihd | 356107 | 1 | 0 cigarettes per day | 15 to 24 cigarettes per day | 0.262364 | 0.027473 |
ihd 356109 0 0 cigarettes per day 25 to 37.5 cigarettes per day 0.165514 2.053788
ihd 356109 0 0 cigarettes per day 1 to 14 cigarettes per day 0.506818 1.459921
ihd 356109 0 0 cigarettes per day 15 to 24 cigarettes per day 0.518794 1.442541
ihd 356109 0 0 cigarettes per day 25 to 37.5 cigarettes per day 0.518794 1.442541
ihd 356109 0 0 cigarettes per day 1 to 14 cigarettes per day 0.548121 1.400849
ihd 356109 0 0 cigarettes per day 15 to 24 cigarettes per day 0.518794 1.442541
ihd 356114 0 0 cigarettes per day 16 to 24 cigarettes per day 0.647103 0.129554
ihd 356114 0 0 cigarettes per day 16 to 24 cigarettes per day 0.609766 0.09289
ihd 356114 0 0 cigarettes per day 5 to 14 cigarettes per day 0.500775 0.145331
ihd 356114 0 0 cigarettes per day 5 to 14 cigarettes per day 0.451076 0.092617
ihd 356114 0 0 cigarettes per day 1 to 4 cigarettes per day 0.41211 0.31761
ihd 356114 0 0 cigarettes per day 1 to 4 cigarettes per day -0.06188 0.236105
ihd 356141 0 0 cigarettes per day 10 to 19 cigarettes per day 0.438255 0.065833
ihd 356141 1 0 cigarettes per day 41 to 61.5 cigarettes per day 0.609766 0.069321
ihd 356141 0 0 cigarettes per day 20 to 29 cigarettes per day 0.615186 0.055157
ihd 356141 0 0 cigarettes per day 20 to 29 cigarettes per day 0.667829 0.078493
ihd 356143 0 0 cigarettes per day 30 to 39 cigarettes per day 0.887891 0.045142
ihd 356143 0 0 cigarettes per day 20 to 29 cigarettes per day 0.824175 0.021259
ihd 356143 0 0 cigarettes per day 20 to 29 cigarettes per day 0.760806 0.019073
ihd 356143 1 0 cigarettes per day 41 to 61.5 cigarettes per day 0.587787 0.063776
ihd 356143 0 0 cigarettes per day 41 to 61.5 cigarettes per day 1.054312 0.074664
ihd 356143 0 0 cigarettes per day 20 to 29 cigarettes per day 0.438255 0.064187
ihd 356143 0 0 cigarettes per day 10 to 19 cigarettes per day 0.425268 0.095038
ihd 356143 0 0 cigarettes per day 10 to 19 cigarettes per day 0.215111 0.065833
ihd 356143 0 0 cigarettes per day 1 to 9 cigarettes per day 0.512824 0.041244
ihd 356143 0 0 cigarettes per day 1 to 9 cigarettes per day 0.285179 0.038361
ihd 356143 0 0 cigarettes per day 1 to 9 cigarettes per day 0.29267 0.026652
ihd 356143 1 0 cigarettes per day 10 to 19 cigarettes per day 0.300105 0.047241
ihd 356143 1 0 cigarettes per day 21 to 31.5 cigarettes per day 0.41211 0.047304
ihd 356143 0 0 cigarettes per day 21 to 31.5 cigarettes per day 0.553885 0.058644
ihd 356264 0 0 cigarettes per day 1 to 25 cigarettes per day 0.506818 0.239988
ihd 356264 0 0 cigarettes per day 25 to 37.5 cigarettes per day 0.81976 0.407114
ihd 356264 0 0 cigarettes per day 1 to 25 cigarettes per day 0.385262 0.237559
ihd 356264 0 0 cigarettes per day 25 to 37.5 cigarettes per day 0.854415 0.392133
ihd 357274 1 0 cigarettes per day 40 to 60 cigarettes per day 4.312677 0.464577
ihd 357274 1 0 cigarettes per day 11 to 19 cigarettes per day 2.071913 0.216226
ihd 357274 1 0 cigarettes per day 20 to 39 cigarettes per day 2.641198 0.170007
ihd 357274 0 0 cigarettes per day 1 to 5 cigarettes per day 0.912283 0.449758
ihd 357274 0 0 cigarettes per day 6 to 10 cigarettes per day 1.403643 0.249461
ihd 357353 0 0 cigarettes per day 1 to 14 cigarettes per day 0.824175 0.253983
ihd 357353 0 0 cigarettes per day 15 to 24 cigarettes per day 1.780024 0.262845
ihd 357353 0 0 cigarettes per day 25 to 37.5 cigarettes per day 2.398804 0.429341
| ihd      | 35737 | 0   | 0 cigarettes per day | 1 to 10 cigarettes per day | 0.636577 | 0.434618 |
|----------|-------|-----|----------------------|-----------------------------|----------|----------|
| ihd      | 35737 | 0   | 0 cigarettes per day | 11 to 16.5 cigarettes per day | 1.862529 | 0.35613  |
| ihd      | 357410| 0   | 0 cigarettes per day | 20 to 30 cigarettes per day | 1.756132 | 0.166984 |
| ihd      | 357410| 0   | 0 cigarettes per day | 0 to 19 cigarettes per day  | 0.609766 | 0.15528  |
| ihd      | 357413| 0   | 0 cigarettes per day | 0 to 19 cigarettes per day  | -0.35667 | 0.619534 |
| ihd      | 357413| 0   | 0 cigarettes per day | 0 to 19 cigarettes per day  | 0        | 0.382653 |
| ihd      | 357413| 0   | 0 cigarettes per day | 20 to 30 cigarettes per day | 1.029619 | 0.419096 |
| ihd      | 357413| 0   | 0 cigarettes per day | 20 to 30 cigarettes per day | 1.458615 | 0.355956 |
| ihd      | 357427| 0   | 0 cigarettes per day | 26 to 39 cigarettes per day | 2.122262 | 0.355615 |
| ihd      | 357427| 0   | 0 cigarettes per day | 1 to 15 cigarettes per day  | 0.71295  | 0.34889  |
| ihd      | 357427| 0   | 0 cigarettes per day | 16 to 25 cigarettes per day | 1.23256  | 0.316089 |
| ihd      | 357429| 0   | 0 cigarettes per day | 16 to 24 cigarettes per day | 1.366092 | 0.184168 |
| ihd      | 357429| 0   | 0 cigarettes per day | 16 to 24 cigarettes per day | 2.209373 | 0.34639  |
| ihd      | 357429| 0   | 0 cigarettes per day | 1 to 15 cigarettes per day  | 0.350657 | 0.251509 |
| ihd      | 357429| 0   | 0 cigarettes per day | 1 to 15 cigarettes per day  | 0.845868 | 0.420426 |
| ihd      | 357441| 0   | 0 cigarettes per day | 0 to 9 cigarettes per day   | 0.470004 | 0.355548 |
| ihd      | 357441| 0   | 0 cigarettes per day | 10 to 15 cigarettes per day | 1.902108 | 0.353716 |
| ihd      | 357453| 0   | 0 cigarettes per day | 0 to 4 cigarettes per day   | 0.41871  | 0.209788 |
| ihd      | 357453| 1   | 0 cigarettes per day | 5 to 7.5 cigarettes per day | 1.128171 | 0.099894 |
| ihd      | 357456| 0   | 0 cigarettes per day | 1 to 10 cigarettes per day  | 0.693147 | 0.318878 |
| ihd      | 357456| 0   | 0 cigarettes per day | 11 to 20 cigarettes per day | 0.993252 | 0.302343 |
| ihd      | 357456| 0   | 0 cigarettes per day | 21 to 31.5 cigarettes per day | 1.064711 | 0.580577 |
| ihd      | 357927| 0   | 0 cigarettes per day | 0 to 9 cigarettes per day   | 1.163151 | 0.310906 |
| ihd      | 357927| 0   | 0 cigarettes per day | 11 to 16.5 cigarettes per day | 2.208274 | 0.364431 |
| ihd      | 357948| 0   | 0 cigarettes per day | 35 to 52.5 cigarettes per day | 2.302585 | 0.242347 |
| ihd      | 357948| 0   | 0 cigarettes per day | 25 to 34 cigarettes per day | 2.116256 | 0.276617 |
| ihd      | 357948| 0   | 0 cigarettes per day | 1 to 14 cigarettes per day  | 0.10536  | 0.510204 |
| ihd      | 357948| 0   | 0 cigarettes per day | 15 to 24 cigarettes per day | 1.458615 | 1.281443 |
| ihd      | 357952| 0   | 0 cigarettes per day | 1 to 14 cigarettes per day  | 0.470004 | 0.223214 |
| ihd      | 357952| 0   | 0 cigarettes per day | 15 to 22.5 cigarettes per day | 0.832909 | 0.255102 |
| ihd      | 357956| 1   | 0 cigarettes per day | 1 to 24 cigarettes per day  | 1.547563 | 0.134529 |
| ihd      | 357956| 1   | 0 cigarettes per day | 25 to 37.5 cigarettes per day | 2.484907 | 0.158374 |
| ihd      | 357959| 0   | 0 cigarettes per day | 1 to 14 cigarettes per day  | 1.187843 | 0.250212 |
| ihd      | 357959| 0   | 0 cigarettes per day | 15 to 24 cigarettes per day | 1.711995 | 0.383802 |
| ihd      | 357959| 0   | 0 cigarettes per day | 1 to 14 cigarettes per day  | 0.378436 | 0.139787 |
| ihd      | 357959| 0   | 0 cigarettes per day | 15 to 24 cigarettes per day | 0.966984 | 0.148792 |
| ihd      | 357959| 0   | 0 cigarettes per day | 25 to 37.5 cigarettes per day | 1.927164 | 0.210958 |
| ihd      | 358054| 0   | 0 cigarettes per day | 0 to 20 cigarettes per day  | 0.875469 | 0.487883 |
| ihd      | 358054| 0   | 0 cigarettes per day | 21 to 31.5 cigarettes per day | 2.352327 | 0.654139 |
| ihd      | 358066| 0   | 0 cigarettes per day | 15 to 24 cigarettes per day | 1.722767 | 0.227777 |
| ihd      | 358066| 0   | 0 cigarettes per day | 25 to 37.5 cigarettes per day | 1.686399 | 0.212585 |
| ihd      | 358066| 0   | 0 cigarettes per day | 25 to 37.5 cigarettes per day | 2.282382 | 0.351416 |
| ihd      | 358066| 0   | 0 cigarettes per day | 0 to 14 cigarettes per day  | 0.875469 | 0.23214  |
| Study Code   | Age Group | Cigarettes per Day | Pack-Years | Hazard Ratio | 95% CI Lower | 95% CI Upper |
|-------------|-----------|--------------------|------------|--------------|--------------|--------------|
| ihd 358066  | 0-14     | 0 to 14 cigarettes per day | 0.741937 | 0.218659     |              |              |
| ihd 358066  | 15-24    | 15 to 24 cigarettes per day | 1.163151 | 0.191327     |              |              |
| ihd 359113  | 0-24     | 0 to 24 cigarettes per day | 0.693147 | 1.211735     |              |              |
| ihd 359114  | 25-34    | 25 to 34 cigarettes per day | 0.832909 | 1.053682     |              |              |
| ihd 359114  | 1-14     | 1 to 14 cigarettes per day | 0.993252 | 0.897581     |              |              |
| ihd 359114  | 15-24    | 15 to 24 cigarettes per day | 1.064711 | 0.835679     |              |              |
| ihd 359115  | 35-52.5  | 35 to 52.5 cigarettes per day | 1.648659 | 0.466052     |              |              |
| ihd 359115  | 1-4      | 1 to 4 cigarettes per day | 0.875469 | 0.42517      |              |              |
| ihd 359115  | 5-14     | 5 to 14 cigarettes per day | 0.916291 | 0.193878     |              |              |
| ihd 359115  | 15-24    | 15 to 24 cigarettes per day | 1.098612 | 0.127551     |              |              |
| ihd 359115  | 35-44    | 35 to 44 cigarettes per day | 1.589235 | 0.171803     |              |              |
| ihd 359115  | 25-34    | 25 to 34 cigarettes per day | 1.629241 | 0.175070     |              |              |
| ihd 359115  | 45-67.5  | 45 to 67.5 cigarettes per day | 3.091042 | 0.31308      |              |              |
| ihd 359320  | 1-14     | 1 to 14 cigarettes per day | 0.24686  | 0.045783     |              |              |
| ihd 359320  | 15-24    | 15 to 24 cigarettes per day | 0.392042 | 0.049977     |              |              |
| ihd 359320  | 25-37.5  | 25 to 37.5 cigarettes per day | 0.392042 | 0.07239      |              |              |
| ihd 462792  | 0-24     | 0 to 24 cigarettes per day | 0.916291 | 0.234694     |              |              |
| ihd 462792  | 25-37.5  | 25 to 37.5 cigarettes per day | 1.205971 | 0.081312     |              |              |
| ihd 462792  | 1-14     | 1 to 14 cigarettes per day | 0.631272 | 0.089044     |              |              |
| ihd 462792  | 15-24    | 15 to 24 cigarettes per day | 0.936093 | 0.073677     |              |              |
| ihd 462792  | 25-37.5  | 25 to 37.5 cigarettes per day | 0.524729 | 0.055909     |              |              |
| ihd 462792  | 1-24     | 1 to 24 cigarettes per day | 0.239017 | 0.066399     |              |              |
| ihd 462792  | 25-37.5  | 25 to 37.5 cigarettes per day | 0.667829 | 0.062467     |              |              |
| ihd 501896  | 1-19     | 1 to 19 cigarettes per day | 0.500775 | 0.085047     |              |              |
| ihd 501896  | 20-30    | 20 to 30 cigarettes per day | 0.604316 | 0.07097      |              |              |
| ihd 502077  | 1-9      | 1 to 9 cigarettes per day | 0.207014 | 0.068018     |              |              |
| ihd 502077  | 10-19    | 10 to 19 cigarettes per day | 0.24686  | 0.060543     |              |              |
| ihd 502077  | 20-30    | 20 to 30 cigarettes per day | 0.708036 | 0.06427      |              |              |
| ihd 502134  | 4-14     | 4 to 14 cigarettes per day | 0.751416 | 0.077903     |              |              |
| ihd 502134  | 1-4      | 1 to 4 cigarettes per day | 0.457425 | 0.223542     |              |              |
| ihd 502134  | 15-22.5  | 15 to 22.5 cigarettes per day | 0.871293 | 0.088181     |              |              |
| kidney_cancer 164492 | 0-20    | 0 to 20 pack-years | 0.850151 | 0.250657     |              |              |
| kidney_cancer 164492 | 19-20    | 19 to 20 pack-years | 0.815365 | 0.240532     |              |              |
| kidney_cancer 164492 | 0-19    | 0 to 19 pack-years | 0.910536 | 0.226757     |              |              |
| kidney_cancer 164492 | 20-30    | 20 to 30 pack-years | 0.182322 | 0.276361     |              |              |
| kidney_cancer 164492 | 20-39    | 20 to 39 pack-years | 0.262364 | 0.274725     |              |              |
| kidney_cancer 164492 | 20-39    | 20 to 39 pack-years | 0.033647 | 0.309767     |              |              |
| kidney_cancer 164492 | 20-39    | 20 to 39 pack-years | 0.336472 | 0.23688      |              |              |
| kidney_cancer 164492 | 20-39    | 20 to 39 pack-years | 0.693147 | 0.293367     |              |              |
| kidney_cancer | 164580 | 0 | 0 pack-years | 20 to 30 pack-years | 0.615186 | 0.367439 |
| kidney_cancer | 328339 | 0 | 0 pack-years | 60 to 90 pack-years | 1.305626 | 0.766689 |
| kidney_cancer | 328339 | 0 | 0 pack-years | 0 to 19 pack-years | 1.075002 | 1.961587 |
| kidney_cancer | 328339 | 0 | 0 pack-years | 40 to 59 pack-years | 0.609766 | 0.651619 |
| kidney_cancer | 328339 | 0 | 0 pack-years | 0 to 19 pack-years | -0.38566 | 2.108343 |
| kidney_cancer | 328339 | 0 | 0 pack-years | 20 to 39 pack-years | 0.741937 | 0.596453 |
| kidney_cancer | 343155 | 0 | 0 pack-years | 21 to 40 pack-years | 0.09531 | 0.440631 |
| kidney_cancer | 343155 | 0 | 0 pack-years | 0 to 19 pack-years | 1.075002 | 1.961587 |
| kidney_cancer | 343155 | 0 | 0 pack-years | 40 to 59 pack-years | 0.609766 | 0.651619 |
| kidney_cancer | 343155 | 0 | 0 pack-years | 0 to 19 pack-years | -0.38566 | 2.108343 |
| kidney_cancer | 343155 | 0 | 0 pack-years | 20 to 39 pack-years | 0.741937 | 0.596453 |
| kidney_cancer | 343155 | 0 | 0 pack-years | 21 to 40 pack-years | 0.336472 | 0.400875 |
| kidney_cancer | 343155 | 0 | 0 pack-years | 41 to 61.5 pack-years | 0.587787 | 0.340136 |
| kidney_cancer | 343155 | 0 | 0 pack-years | 41 to 61.5 pack-years | 0.832909 | 0.28394 |
| kidney_cancer | 343155 | 0 | 0 pack-years | 0 to 19 pack-years | 1.131402 | 0.534896 |
| kidney_cancer | 343850 | 0 | 0 pack-years | 75.05 to 112.5 pack-years | 0.05366 | 0.326769 |
| kidney_cancer | 343850 | 0 | 0 pack-years | 50.05 to 75 pack-years | 0 | 0.280258 |
| kidney_cancer | 343850 | 0 | 0 pack-years | 25.05 to 50 pack-years | 0 | 0.250212 |
| kidney_cancer | 343850 | 0 | 0 pack-years | 0.05 to 25 pack-years | 0.182322 | 0.280258 |
| kidney_cancer | 358807 | 0 | 0 pack-years | 0 to 15.9 pack-years | 2.408745 | 1.552865 |
| kidney_cancer | 358807 | 0 | 0 pack-years | 34.3 to 51.45 pack-years | 1.962908 | 0.489065 |
| kidney_cancer | 358807 | 0 | 0 pack-years | 16 to 34.2 pack-years | 1.754404 | 0.69469 |
| kidney_cancer | 358807 | 0 | 0 pack-years | 34.3 to 51.45 pack-years | 1.691939 | 0.363626 |
| kidney_cancer | 358807 | 0 | 0 pack-years | 34.3 to 51.45 pack-years | 1.451614 | 0.510802 |
| kidney_cancer | 358807 | 0 | 0 pack-years | 0 to 15.9 pack-years | 1.313724 | 0.757077 |
| kidney_cancer | 358807 | 0 | 0 pack-years | 16 to 34.2 pack-years | 1.244155 | 0.396254 |
| kidney_cancer | 358807 | 0 | 0 pack-years | 34.3 to 51.45 pack-years | 1.205971 | 0.355157 |
| kidney_cancer | 358807 | 0 | 0 pack-years | 16 to 34.2 pack-years | 1.054312 | 0.477316 |
| kidney_cancer | 358807 | 0 | 0 pack-years | 0 to 15.9 pack-years | 0.932164 | 1.019404 |
| kidney_cancer | 358807 | 0 | 0 pack-years | 16 to 34.2 pack-years | 0.904218 | 0.415186 |
| kidney_cancer | 358807 | 0 | 0 pack-years | 0 to 15.9 pack-years | 0.698135 | 0.171337 |
| kidney_cancer | 358807 | 0 | 0 pack-years | 0 to 15.9 pack-years | 0.662688 | 0.429992 |
| kidney_cancer | 358807 | 0 | 0 pack-years | 0 to 15.9 pack-years | 0.518794 | 1.228438 |
| kidney_cancer | 358807 | 0 | 0 pack-years | 16 to 34.2 pack-years | 0.476234 | 0.264609 |
| kidney_cancer | 358807 | 0 | 0 pack-years | 16 to 34.2 pack-years | 0.239017 | 0.343484 |
| kidney_cancer | 358807 | 0 | 0 pack-years | 34.3 to 51.45 pack-years | 1.085189 | 0.239589 |
| kidney_cancer | 358809 | 0 | 0 pack-years | 40 to 60 pack-years | 0.765468 | 0.434267 |
| kidney_cancer | 358809 | 0 | 0 pack-years | 0 to 19 pack-years | 0.336472 | 0.428207 |
| kidney_cancer | 358809 | 0 | 0 pack-years | 20 to 30 pack-years | 0.792993 | 0.702973 |
| kidney_cancer | 358809 | 0 | 0 pack-years | 0 to 9 pack-years | -0.73397 | 0.935374 |
| kidney_cancer | 358809 | 0 | 0 pack-years | 10 to 19 pack-years | -1.17118 | 0.929888 |
| kidney_cancer | 358809 | 0 | 0 pack-years | 20 to 39 pack-years | 0.067659 | 0.371924 |
| kidney_cancer | 358812 | 0 | 0 pack-years | 10 to 19 pack-years | -0.35667 | 0.255102 |
| kidney_cancer | 358812 | 0 | 0 pack-years | 30 to 39 pack-years | -0.10536 | 0.42517 |
| kidney_cancer | 358814 | 0 | 0 pack-years | 1 to 20 pack-years | -0.22514 | 0.57398 |
| kidney_cancer | 358814 | 0 | 0 pack-years | 21 to 31.5 pack-years | 0.875469 | 0.457058 |
| kidney_cancer | 358814 | 0 | 0 pack-years | 1 to 20 pack-years | 0.955511 | 0.441523 |
| kidney_cancer | 358814 | 1 | 0 pack-years | 21 to 31.5 pack-years | 1.526056 | 0.421473 |
| kidney_cancer | 413175 | 0 | 0 pack-years | 31 to 40 pack-years | 0.182322 | 0.162242 |
| kidney_cancer | 413175 | 0 | 0 pack-years | 21 to 30 pack-years | 0.182322 | 0.146777 |
| kidney_cancer | 413175 | 0 | 0 pack-years | 40 to 60 pack-years | 0.336472 | 0.163738 |
| kidney_cancer | 413175 | 0 | 0 pack-years | 1 to 10 pack-years | 0.09531 | 0.142759 |
| kidney_cancer | 413175 | 0 | 0 pack-years | 11 to 20 pack-years | 0.182322 | 0.734171 |
| kidney_cancer | 502130 | 0 | 0 pack-years | 0 to 10 pack-years | 0.34359 | 0.422625 |
| kidney_cancer | 502130 | 0 | 0 pack-years | 10 to 19 pack-years | -0.94161 | 0.595759 |
| kidney_cancer | 502130 | 0 | 0 pack-years | 20 to 29 pack-years | 0.019803 | 0.384296 |
| kidney_cancer | 502130 | 0 | 0 pack-years | 30 to 45 pack-years | 0.34359 | 0.295914 |
| kidney_cancer | 502130 | 0 | 0 pack-years | 1 to 19 pack-years | 0.131028 | 0.244305 |
| kidney_cancer | 502130 | 0 | 0 pack-years | 20 to 39 pack-years | 0.00995 | 0.201818 |
| kidney_cancer | 502130 | 0 | 0 pack-years | 40 to 60 pack-years | 0.34359 | 0.212596 |
| kidney_cancer | 502217 | 0 | 0 pack-years | 1 to 10 pack-years | -0.16252 | 0.536769 |
| kidney_cancer | 502217 | 0 | 0 pack-years | 10 to 19 pack-years | 0.41211 | 0.357025 |
| kidney_cancer | 502217 | 0 | 0 pack-years | 20 to 29 pack-years | 0.322083 | 0.381503 |
| kidney_cancer | 502217 | 0 | 0 pack-years | 30 to 45 pack-years | 0.09531 | 0.443802 |
| kidney_cancer | 502427 | 0 | 0 pack-years | 20 to 30 pack-years | 0.329304 | 0.18203 |
| kidney_cancer | 502427 | 0 | 0 pack-years | 10 to 19.9 pack-years | 0 | 0.280258 |
| kidney_cancer | 502427 | 0 | 0 pack-years | 20 to 39 pack-years | 0.34359 | 0.344369 |
| kidney_cancer | 502427 | 0 | 0 pack-years | 40 to 60 pack-years | 0.405465 | 0.57161 |
| kidney_cancer | 502441 | 0 | 0 pack-years | 1 to 17 pack-years | -0.27444 | 0.19344 |
| kidney_cancer | 502441 | 0 | 0 pack-years | 40 to 69 pack-years | 0.182322 | 0.353647 |
| kidney_cancer | 502441 | 0 | 0 pack-years | 70 to 105 pack-years | 0.641854 | 0.457081 |
| kidney_cancer | 502441 | 0 | 0 pack-years | 1 to 19 pack-years | 0 | 0.280258 |
| kidney_cancer | 502441 | 0 | 0 pack-years | 20 to 39 pack-years | 0.336472 | 0.344369 |
| kidney_cancer | 502441 | 0 | 0 pack-years | 40 to 60 pack-years | 0.405465 | 0.57161 |
| kidney_cancer | 502448 | 0 | 0 pack-years | 1 to 17 pack-years | -0.27444 | 0.19344 |
| kidney_cancer | 502448 | 0 | 0 pack-years | 31 to 45.5 pack-years | -0.16252 | 0.273191 |
| kidney_cancer | 502448 | 0 | 0 pack-years | 17 to 31 pack-years | -0.05129 | 0.262349 |
| kidney_cancer | 502448 | 0 | 0 pack-years | 1 to 17 pack-years | -0.06188 | 0.149946 |
| kidney_cancer | 502448 | 0 | 0 pack-years | 17 to 31 pack-years | -0.01005 | 0.262349 |
| kidney_cancer | 502478 | 0 | 0 pack-years | 28 to 42.2 pack-years | 0.336472 | 0.139424 |
| kidney_cancer | 502478 | 0 | 0 pack-years | 1 to 15.9 pack-years | 0.09531 | 0.160359 |
| kidney_cancer | 502478 | 0 | 0 pack-years | 16 to 27.9 pack-years | 0.09531 | 0.160359 |
| kidney_cancer | 502478 | 0 | 0 pack-years | 42.3 to 63.45 pack-years | 0.693147 | 0.133482 |
| Disease              | ID       | Age | Pack-years | Pack-years | Risk Estimate 1 | Risk Estimate 2 |
|----------------------|----------|-----|------------|------------|-----------------|-----------------|
| kidney cancer        | 502480   | 0   | 0          | 11 to 20   | 0.955511       | 0.608792        |
| kidney cancer        | 502480   | 0   | 0          | 1 to 10    | 1.029619       | 0.584544        |
| kidney cancer        | 502480   | 0   | 0          | 20 to 30   | 0.641854       | 0.440618        |
| laryngeal cancer     | 298142   | 0   | 0          | 11 to 20   | 1.481605       | 0.220315        |
| laryngeal cancer     | 298142   | 0   | 0          | 21 to 31.5 | 1.791759       | 0.242347        |
| laryngeal cancer     | 298142   | 0   | 0          | 0 to 9     | 0.336472       | 0.740785        |
| laryngeal cancer     | 298147   | 0   | 0          | 10 to 19   | 1.064711       | 0.59817         |
| laryngeal cancer     | 298147   | 1   | 0          | 20 to 29   | 1.131402       | 0.617182        |
| laryngeal cancer     | 298147   | 0   | 0          | 30 to 39   | 2.734368       | 0.556586        |
| laryngeal cancer     | 298147   | 0   | 0          | 40 to 60   | 3.222868       | 0.517318        |
| laryngeal cancer     | 343375   | 0   | 0          | 41 to 61.5 | 2.791165       | 0.696444        |
| laryngeal cancer     | 343375   | 0   | 0          | 21 to 40   | 2.186051       | 0.696515        |
| laryngeal cancer     | 343375   | 0   | 0          | 41 to 61.5 | 2.140066       | 0.627251        |
| laryngeal cancer     | 343375   | 0   | 0          | 1 to 20    | 2.04122        | 1.371588        |
| laryngeal cancer     | 343375   | 0   | 0          | 1 to 20    | 1.987874       | 0.69891         |
| laryngeal cancer     | 343375   | 1   | 0          | 21 to 31.5 | 0.875469       | 1.349915        |
| laryngeal cancer     | 343375   | 0   | 0          | 1 to 20    | 2.104134       | 0.609756        |
| laryngeal cancer     | 343375   | 0   | 0          | 1 to 29    | 1.950187       | 0.163294        |
| laryngeal cancer     | 364113   | 0   | 0          | 30 to 39   | 2.66026        | 0.190881        |
| laryngeal cancer     | 364113   | 0   | 0          | 40 to 49   | 2.821379       | 0.220177        |
| laryngeal cancer     | 364113   | 0   | 0          | 60 to 90   | 3.077312       | 0.306828        |
| laryngeal cancer     | 364113   | 0   | 0          | 50 to 59   | 3.144152       | 0.269397        |
| laryngeal cancer     | 502130   | 0   | 0          | 20 to 29   | 2.933325       | 0.677798        |
| laryngeal cancer     | 502130   | 1   | 0          | 0 to 10    | 2.515274       | 0.876388        |
| laryngeal cancer     | 502130   | 0   | 0          | 10 to 19   | 2.60343        | 0.717491        |
| laryngeal cancer     | 502130   | 0   | 0          | 30 to 45   | 3.125005       | 0.620322        |
| lbp                  | 259680   | 0   | 0          | 1 to 9     | 0.48858        | 0.311444        |
| lbp                  | 348202   | 1   | 0          | 11 to 20   | -0.10536       | 0.226757        |
| lbp                  | 348202   | 0   | 0          | 21 to 31.5 | 0.09531        | 0.347866        |
| lbp                  | 348202   | 0   | 0          | 11 to 20   | 0.182322       | 0.510204        |
| lbp                  | 348202   | 0   | 0          | 1 to 10    | 0.182322       | 0.552721        |
| lbp                  | 348202   | 0   | 0          | 1 to 10    | 0.182322       | 0.233844        |
| lbp                  | 348202   | 0   | 0          | 21 to 31.5 | 1.704748       | 0.496289        |
| lbp                  | 348204   | 0   | 0          | 1 to 25    | 0.824175       | 0.37594         |
| lbp                  | 348204   | 0   | 0          | 25 to 37.5 | 1.329724       | 1.126363        |
| lbp                  | 348206   | 0   | 0          | 1 to 9     | 0.985817       | 0.377894        |
| lbp                  | 348206   | 0   | 0          | 10 to 15   | 0.943906       | 0.53899         |
| lbp                  | 348206   | 0   | 0          | 10 to 15   | 0.779325       | 0.471588        |
| lbp                  | 348206   | 0   | 0          | 1 to 9     | 0.871293       | 0.286056        |
| lbp                  | 348206   | 0   | 0          | 1 to 10    | 0.470004       | 0.165816        |
| lbp                  | 348208   | 0   | 0          | 11 to 20   | 0.756122       | 0.156894        |
| Category   | Code   | Value  | Reference  | p_value | t_value |
|------------|--------|--------|------------|---------|---------|
| cigarettes per day | lbp     | 348208 | 0          | 0       | 21 to 31.5 cigarettes per day | 1.386294 | 0.852679 |
| cigarettes per day | lbp     | 409803 | 0          | 0       | 21 to 30 cigarettes per day   | 0.029559 | 3.118313 |
| cigarettes per day | lbp     | 409803 | 1          | 0       | 11 to 20 cigarettes per day   | -0.31471 | 4.399811 |
| cigarettes per day | lbp     | 409803 | 0          | 0       | 1 to 10 cigarettes per day    | 0.29267 | 2.396912 |
| pack-years | leukemia | 328339 | 0          | 0       | 40 to 59 pack-years           | 0.688135 | 0.893498 |
| pack-years | leukemia | 328339 | 0          | 0       | 20 to 39 pack-years           | 0.883768 | 0.729465 |
| pack-years | leukemia | 328339 | 0          | 0       | 0 to 19 pack-years            | 0.963174 | 1.040855 |
| pack-years | leukemia | 328339 | 1          | 0       | 20 to 39 pack-years           | 1.108563 | 1.877484 |
| pack-years | leukemia | 328339 | 0          | 0       | 61 to 91.5 pack-years         | 1.644805 | 0.971653 |
| pack-years | leukemia | 343390 | 0          | 0       | 10 to 19 pack-years           | 1.075002 | 1.229365 |
| pack-years | leukemia | 343390 | 1          | 0       | 0 to 9 pack-years             | 0.920283 | 2.031669 |
| pack-years | leukemia | 343390 | 0          | 0       | 20 to 29 pack-years           | 0.845868 | 1.579881 |
| pack-years | leukemia | 343390 | 0          | 0       | 20 to 29 pack-years           | 0.845868 | 1.557984 |
| pack-years | leukemia | 343390 | 0          | 0       | 31 to 46.5 pack-years         | 0.703098 | 0.386442 |
| pack-years | leukemia | 343390 | 0          | 0       | 31 to 46.5 pack-years         | 0.542324 | 0.364855 |
| pack-years | leukemia | 343390 | 0          | 0       | 20 to 29 pack-years           | 0.451076 | 1.298258 |
| pack-years | leukemia | 343390 | 0          | 0       | 0 to 9 pack-years             | 0.398776 | 0.58896 |
| pack-years | leukemia | 343390 | 0          | 0       | 31 to 46.5 pack-years         | 0.314811 | 0.657307 |
| pack-years | leukemia | 343390 | 0          | 0       | 10 to 19 pack-years           | 0.29267 | 0.969007 |
| pack-years | leukemia | 343390 | 0          | 0       | 31 to 46.5 pack-years         | 0.223144 | 1.032653 |
| pack-years | leukemia | 343390 | 0          | 0       | 20 to 29 pack-years           | 0.039221 | 0.537186 |
| pack-years | leukemia | 343390 | 1          | 0       | 0 to 9 pack-years             | -0.46204 | 2.040816 |
| pack-years | leukemia | 343390 | 1          | 0       | 20 to 29 pack-years           | -1.20397 | 2.142857 |
| pack-years | leukemia | 343390 | 0          | 0       | 10 to 19 pack-years           | 0.405465 | 0.52381 |
| pack-years | leukemia | 502130 | 0          | 0       | 10 to 19 pack-years           | 0.41871 | 0.38312 |
| pack-years | leukemia | 502130 | 0          | 0       | 30 to 45 pack-years           | 0.182322 | 0.398217 |
| pack-years | leukemia | 502130 | 0          | 0       | 20 to 29 pack-years           | -0.11653 | 0.519266 |
| pack-years | leukemia | 502130 | 0          | 0       | 0 to 10 pack-years            | 0.307485 | 0.520517 |
| pack-years | leukemia | 502130 | 0          | 0       | 0 to 10 pack-years            | -0.46204 | 0.727712 |
| pack-years | leukemia | 502130 | 1          | 0       | 20 to 29 pack-years           | -1.60944 | 0.983983 |
| pack-years | leukemia | 502130 | 0          | 0       | 10 to 19 pack-years           | 0.350657 | 0.376078 |
| pack-years | leukemia | 502130 | 0          | 0       | 30 to 45 pack-years           | -0.30111 | 0.462688 |
| pack-years | leukemia | 502130 | 1          | 0       | 1 to 9 pack-years             | 0.559616 | 0.393645 |
| pack-years | leukemia | 502130 | 0          | 0       | 10 to 19 pack-years           | 0.378436 | 0.517511 |
| pack-years | leukemia | 502130 | 0          | 0       | 20 to 30 pack-years           | 0.565314 | 0.411216 |
| pack-years | leukemia | 502130 | 0          | 0       | 1 to 9 pack-years             | 0.405465 | 0.353647 |
| pack-years | leukemia | 502130 | 0          | 0       | 10 to 19 pack-years           | 0.270027 | 0.419219 |
| pack-years | leukemia | 502130 | 0          | 0       | 20 to 30 pack-years           | -0.17435 | 0.402385 |
| pack-years | leukemia | 502395 | 0          | 0       | 1 to 19 pack-years            | -0.0202 | 0.283277 |
| pack-years | leukemia | 502395 | 0          | 0       | 20 to 30 pack-years           | 0.09531 | 0.307136 |
| pack-years | leukemia | 502397 | 0          | 0       | 1 to 20 pack-years            | 0.239017 | 0.152645 |
| pack-years | leukemia | 502397 | 0          | 0       | 21 to 31.5 pack-years         | 0.254642 | 0.155844 |
| pack-years | leukemia | 502419 | 0          | 0       | 11 to 20 pack-years           | -0.10536 | 0.106644 |
| Condition                      | Value 1 | Value 2 | pack-years | Value 3 | Value 4 |
|--------------------------------|---------|---------|------------|---------|---------|
| leukemia                       | 502419  | 0       | 0          | 1 to 10 pack-years | 0       | 0.080698 |
| leukemia                       | 502419  | 0       | 0          | 20 to 30 pack-years | 0.09531 | 0.093106 |
| lip_oral_cavity_cancer         | 286841  | 0       | 0          | 1 to 19 pack-years | 0.182322 | 0.220663 |
| lip_oral_cavity_cancer         | 286841  | 0       | 0          | 20 to 39 pack-years | 0.336472 | 0.280258 |
| lip_oral_cavity_cancer         | 286841  | 0       | 0          | 40 to 60 pack-years | 0.262364 | 0.410571 |
| lip_oral_cavity_cancer         | 343375  | 1       | 0          | 1 to 20 pack-years | 1.757858 | 0.340561 |
| lip_oral_cavity_cancer         | 343375  | 1       | 0          | 21 to 40 pack-years | 2.163323 | 0.362394 |
| lip_oral_cavity_cancer         | 343375  | 0       | 0          | 41 to 61.5 pack-years | 1.808289 | 0.399397 |
| lip_oral_cavity_cancer         | 343432  | 0       | 0          | 1 to 20 pack-years | 0.270027 | 0.426194 |
| lip_oral_cavity_cancer         | 343432  | 0       | 0          | 21 to 31.5 pack-years | 1.621366 | 0.535642 |
| lip_oral_cavity_cancer         | 348052  | 0       | 0          | 34 to 51 pack-years | 1.131402 | 0.394997 |
| lip_oral_cavity_cancer         | 348052  | 0       | 0          | 34 to 51 pack-years | 0.530628 | 0.45018 |
| lip_oral_cavity_cancer         | 359128  | 0       | 0          | 0 to 18 pack-years | 0.916291 | 0.428571 |
| lip_oral_cavity_cancer         | 359128  | 0       | 0          | 19 to 39 pack-years | 0.14842  | 0.134148 |
| lip_oral_cavity_cancer         | 359128  | 0       | 0          | 40 to 59 pack-years | 0.928219 | 0.45878 |
| lip_oral_cavity_cancer         | 359128  | 0       | 0          | 60 to 90 pack-years | 1.648659 | 0.48175 |
| lip_oral_cavity_cancer         | 359128  | 0       | 0          | 0 to 19 pack-years | 0.81978  | 0.54167 |
| lip_oral_cavity_cancer         | 359128  | 0       | 0          | 40 to 59 pack-years | -1.13943 | 2.112564 |
| lip_oral_cavity_cancer         | 359128  | 0       | 0          | 0 to 19 pack-years | -0.26136 | 1.232441 |
| lip_oral_cavity_cancer         | 359128  | 0       | 0          | 20 to 39 pack-years | -1.30933 | 1.209373 |
| lip_oral_cavity_cancer         | 359128  | 0       | 0          | 20 to 39 pack-years | 0.350657 | 0.45092 |
| lip_oral_cavity_cancer         | 364113  | 1       | 0          | 40 to 59 pack-years | 1.957274 | 0.194569 |
| lip_oral_cavity_cancer         | 502130  | 0       | 0          | 0 to 10 pack-years | 0.270027 | 0.601656 |
| lip_oral_cavity_cancer         | 502130  | 0       | 0          | 10 to 19 pack-years | 0.792993 | 0.368691 |
| lip_oral_cavity_cancer         | 502130  | 0       | 0          | 20 to 29 pack-years | 0.536493 | 0.434567 |
| lip_oral_cavity_cancer         | 502130  | 0       | 0          | 30 to 45 pack-years | 1.585145 | 0.258849 |
| lip_oral_cavity_cancer         | 502243  | 0       | 0          | 1 to 20 pack-years | 0.841567 | 0.377228 |
| lip_oral_cavity_cancer         | 502243  | 0       | 0          | 21 to 40 pack-years | 1.677097 | 0.381556 |
| lip_oral_cavity_cancer         | 502243  | 0       | 0          | 40 to 60 pack-years | 2.152924 | 0.364157 |
| lip_oral_cavity_cancer         | 502352  | 0       | 0          | 10 to 19 pack-years | 0.058269 | 0.591991 |
| lip_oral_cavity_cancer         | 502352  | 0       | 0          | 1 to 9 pack-years | 0.270027 | 0.822707 |
| lip_oral_cavity_cancer         | 502352  | 0       | 0          | 20 to 30 pack-years | 1.678964 | 0.548627 |
| liver_cancer                   | 125938  | 0       | 0          | 0 to 19 pack-years | 0.182322 | 0.170068 |
| liver_cancer                   | 125938  | 1       | 0          | 20 to 30 pack-years | 4.154185 | 0.510605 |
| liver_cancer                   | 293871  | 0       | 0          | 11 to 16.5 pack-years | -0.10536 | 0.255102 |
| liver_cancer                   | 293871  | 0       | 0          | 0 to 10 pack-years | 0.405465 | 0.272109 |
| liver_cancer                   | 328266  | 0       | 0          | 0 to 19 pack-years | 0.530628 | 0.285114 |
| liver_cancer                   | 328266  | 0       | 0          | 20 to 40 pack-years | 0.741937 | 0.279397 |
| liver_cancer                   | 328266  | 0       | 0          | 41 to 61.5 pack-years | 0.916291 | 0.336735 |
| liver_cancer                   | 328339  | 0       | 0          | 60 to 90 pack-years | 1.530395 | 1.797862 |
| liver_cancer                   | 328339  | 0       | 0          | 40 to 59 pack-years | 1.453953 | 0.73014 |
| liver_cancer | pack-years | pack-years | pack-years | pack-years |
|--------------|------------|------------|------------|------------|
| 328339       | 0          | 0          | 20 to 39   | 0.904218   | 0.467859  |
| 328339       | 0          | 0          | 60 to 90   | 0.593327   | 0.243827  |
| 328339       | 0          | 0          | 0 to 19    | 0.506818   | 0.235124  |
| 328339       | 0          | 0          | 20 to 39   | 0.482426   | 0.165344  |
| 328339       | 0          | 0          | 40 to 59   | 0.165514   | 0.196731  |
| 328339       | 0          | 0          | 0 to 19    | 0          | 0.517857  |
| 328339       | 0          | 0          | 50 to 75   | -0.22314   | 3.891103  |
| 328339       | 0          | 0          | 1 to 24    | -0.10536   | 3.458759  |
| 328339       | 0          | 0          | 25 to 49   | 0.955511   | 1.197263  |
| 328339       | 0          | 0          | 75.05 to 112.5 | -0.22314 | 0.560516  |
| 328339       | 0          | 0          | 50 to 75   | -0.35667   | 0.728863  |
| 328339       | 0          | 0          | 0.05 to 25 | 0.336472   | 0.601312  |
| 328339       | 0          | 0          | 25 to 49   | 1.03054    | 1.130313  |
| 328339       | 0          | 0          | 50 to 75   | 1.064366   | 1.073778  |
| 328339       | 0          | 0          | 0 to 24    | 1.48024    | 0.708439  |
| 328339       | 0          | 0          | 0 to 19    | 0.131028   | 0.373702  |
| 328339       | 0          | 0          | 40 to 60   | 0.086178   | 0.372121  |
| 328339       | 0          | 0          | 20 to 39   | 0.086178   | 0.369781  |
| 328339       | 1          | 0          | 21 to 31.5 | -0.35667   | 0.291545  |
| 328339       | 0          | 0          | 1 to 20    | -0.10536   | 0.340136  |
| 328339       | 0          | 0          | 13 to 19.5 | 0.587778   | 0.410998  |
| 328339       | 0          | 0          | 0.1 to 12.9 | 0.875469  | 0.403912  |
| 328339       | 0          | 0          | 20 to 29   | 0.470004   | 0.352047  |
| 328339       | 0          | 0          | 10 to 19   | 0.131028   | 0.393657  |
| 328339       | 0          | 0          | 30 to 45   | -0.22314   | 0.423364  |
| 173863       | 0          | 0          | 1 to 14    | 0.463734   | 1.707098  |
| 173863       | 0          | 0          | 15 to 24   | 0.774727   | 1.250823  |
| 173863       | 0          | 0          | 25 to 37.5 | 0.8671     | 1.140456  |
| 173863       | 0          | 0          | 0 to 9     | 0.722706   | 1.317614  |
| 173863       | 0          | 0          | 10 to 19   | 1.118415   | 0.887021  |
| 173863       | 0          | 0          | 20 to 30   | 1.48614    | 0.614092  |
| 173863       | 0          | 0          | 0 to 24    | 0.350657   | 0.269474  |
| 173863       | 0          | 0          | 25 to 37.5 | 0.378436   | 0.396631  |
| 173863       | 0          | 0          | 0 to 24    | 0.512824   | 0.172614  |
| 173863       | 0          | 0          | 25 to 37.5 | 0.932164   | 0.320384  |
| 173863       | 0          | 0          | 15 to 24   | 1.308333   | 0.413679  |
| 173863       | 0          | 0          | 25 to 37.5 | 1.704748   | 0.482375  |
| Column | Code | Status | Variable | Value Range | Probability_1 | Probability_2 |
|--------|------|--------|----------|-------------|---------------|---------------|
| Iri    | 355108 | 0      | 0 cigarettes per day | 1 to 14 cigarettes per day | 0.832909 | 0.332742 |
| Iri    | 355112 | 0      | 0 cigarettes per day | 1 to 9 cigarettes per day | 0.215111 | 0.357966 |
| Iri    | 355112 | 0      | 0 cigarettes per day | 10 to 20 cigarettes per day | 0.858662 | 0.291854 |
| Iri    | 355112 | 0      | 0 cigarettes per day | 21 to 31.5 cigarettes per day | 1.088562 | 0.368481 |
| Iri    | 355955 | 1      | 0 cigarettes per day | 25 to 37.5 cigarettes per day | -1.13943 | 8.482143 |
| Iri    | 355955 | 0      | 0 cigarettes per day | 1 to 14 cigarettes per day | 0.371564 | 1.871921 |
| Iri    | 355955 | 0      | 0 cigarettes per day | 15 to 24 cigarettes per day | 1.098612 | 0.904762 |
| Iri    | 413804 | 0      | 0 cigarettes per day | 20 to 30 cigarettes per day | 0.667829 | 0.074568 |
| Iri    | 413804 | 0      | 0 cigarettes per day | 1 to 10 cigarettes per day | 0.667829 | 0.18052 |
| Iri    | 413804 | 0      | 0 cigarettes per day | 10 to 19 cigarettes per day | 1.193922 | 0.176252 |
| Iri    | 413804 | 0      | 0 cigarettes per day | 0 to 9 cigarettes per day | 0.067829 | 0.184008 |
| Iri    | 413804 | 1      | 0 cigarettes per day | 25 to 40 cigarettes per day | -1.13943 | 8.482143 |
| Iri    | 413804 | 0      | 0 cigarettes per day | 10 to 19 cigarettes per day | 0.604316 | 0.179772 |
| Iri    | 413804 | 0      | 0 cigarettes per day | 15 to 24 cigarettes per day | 1.098612 | 0.904762 |
| Iri    | 413804 | 0      | 0 cigarettes per day | 10 to 19 cigarettes per day | 0.604316 | 0.184008 |
| Iri    | 413804 | 0      | 0 cigarettes per day | 20 to 30 cigarettes per day | 0.667829 | 0.074568 |
| Iri    | 413804 | 0      | 0 cigarettes per day | 1 to 10 cigarettes per day | 0.667829 | 0.18052 |
| Iri    | 413804 | 0      | 0 cigarettes per day | 10 to 19 cigarettes per day | 1.193922 | 0.176252 |
| lung_cancer | 193948 | 0      | 0 pack-years | 33.33 to 57.33 pack-years | 0.774727 | 0.951049 |
| lung_cancer | 193948 | 0      | 0 pack-years | 3.33 to 32.33 pack-years | 0.95935 | 0.892368 |
| lung_cancer | 193948 | 0      | 0 pack-years | 8.33 to 87.495 pack-years | 1.547563 | 1.105623 |
| lung_cancer | 193987 | 0      | 0 pack-years | 1 to 39 pack-years | 0.65752 | 0.278894 |
| lung_cancer | 193987 | 0      | 0 pack-years | 1 to 39 pack-years | 1.319086 | 0.187575 |
| lung_cancer | 193987 | 1      | 0 pack-years | 0 to 9 pack-years | 0.074727 | 0.951049 |
| lung_cancer | 193987 | 1      | 0 pack-years | 0 to 9 pack-years | 0.074727 | 0.951049 |
| lung_cancer | 193987 | 1      | 0 pack-years | 0 to 9 pack-years | 0.074727 | 0.951049 |
| lung_cancer | 193987 | 1      | 0 pack-years | 0 to 9 pack-years | 0.074727 | 0.951049 |
| lung_cancer | 250095 | 0      | 0 pack-years | 40 to 60 pack-years | 1.976855 | 0.358627 |
| lung_cancer | 250095 | 1      | 0 pack-years | 60 to 90 pack-years | 1.490654 | 0.146511 |
| lung_cancer | 250095 | 1      | 0 pack-years | 40 to 60 pack-years | 1.490654 | 0.146511 |
| lung_cancer | 250095 | 0      | 0 pack-years | 20 to 30 pack-years | 1.366092 | 0.292196 |
| lung_cancer | 250095 | 0      | 0 pack-years | 0 to 19 pack-years | 0.14842 | 0.255102 |
| lung_cancer | 250095 | 1      | 0 pack-years | 20 to 30 pack-years | 0.14842 | 0.255102 |
| lung_cancer | 286844 | 0      | 0 pack-years | 0.05 to 12.5 pack-years | 0.587787 | 0.481859 |
| lung_cancer | 286844 | 0      | 0 pack-years | 12.5 to 25 pack-years | 2.140066 | 0.381152 |
| lung_cancer | 286844 | 0      | 0 pack-years | 26 to 39 pack-years | 4.213608 | 0.434353 |
| lung_cancer | 298142 | 0      | 0 pack-years | 1 to 10 pack-years | 0.587787 | 0.198413 |
| lung_cancer | 298142 | 0      | 0 pack-years | 11 to 20 pack-years | 1.458615 | 0.126659 |
| lung_cancer | 298142 | 0      | 0 pack-years | 20 to 30 pack-years | 1.458615 | 0.126659 |
| lung_cancer | 298142 | 0      | 0 pack-years | 1 to 10 pack-years | 0.587787 | 0.198413 |
| lung_cancer | 321342 | 1      | 0 pack-years | 25 to 40 pack-years | 2.451005 | 0.07917 |
| lung_cancer | 321342 | 0      | 0 pack-years | 25 to 40 pack-years | 2.451005 | 0.07917 |
| lung_cancer | 328215 | 0      | 0 pack-years | 35 to 52.5 pack-years | 1.979621 | 0.37913 |
| lung_cancer | 328215 | 0      | 0 pack-years | 21 to 34 pack-years | 1.211941 | 0.378098 |
| lung_cancer | 328215 | 0      | 0 pack-years | 1 to 10 pack-years | 0.41871 | 0.530344 |
| lung_cancer | 328215 | 0      | 0 pack-years | 11 to 15 pack-years | 0.512824 | 0.597275 |
| lung_cancer | 328215 | 0      | 0 pack-years | 16 to 20 pack-years | 0.916291 | 0.495918 |
| lung_cancer | 328266 | 0      | 0 pack-years | 0 to 19 pack-years | 0.832909 | 0.354925 |
| lung_cancer | 328266 | 0      | 0 pack-years | 20 to 40 pack-years | 1.504077 | 0.323129 |
| lung_cancer | 328266 | 0      | 0 pack-years | 41 to 61.5 pack-years | 1.667707 | 0.346554 |
| lung_cancer | 328909 | 0 | 0 pack-years | 0 to 9 pack-years | 1.499623 | 0.334821 |
| lung_cancer | 328909 | 0 | 0 pack-years | 10 to 18 pack-years | 1.913977 | 0.267895 |
| lung_cancer | 328909 | 0 | 0 pack-years | 20 to 28 pack-years | 2.428336 | 0.252628 |
| lung_cancer | 328909 | 0 | 0 pack-years | 30 to 45 pack-years | 2.821974 | 0.243265 |
| lung_cancer | 334460 | 0 | 0 pack-years | 0 to 25 pack-years | 2.885917 | 0.251685 |
| lung_cancer | 334460 | 0 | 0 pack-years | 0 to 25 pack-years | 2.800325 | 0.488803 |
| lung_cancer | 334460 | 0 | 0 pack-years | 16 to 24 pack-years | 2.651833 | 0.288924 |
| lung_cancer | 334460 | 0 | 0 pack-years | 16 to 24 pack-years | 2.329227 | 0.358435 |
| lung_cancer | 334460 | 0 | 0 pack-years | 1 to 4 pack-years | 0.48858 | 0.583761 |
| lung_cancer | 334460 | 0 | 0 pack-years | 1 to 4 pack-years | 0.746688 | 0.315553 |
| lung_cancer | 334460 | 0 | 0 pack-years | 6 to 10 pack-years | 1.83737 | 0.244947 |
| lung_cancer | 343580 | 0 | 0 pack-years | 50.05 to 75 pack-years | 2.778819 | 0.328431 |
| lung_cancer | 343580 | 0 | 0 pack-years | 75.05 to 112.5 pack-years | 3.332205 | 0.335417 |
| lung_cancer | 343580 | 0 | 0 pack-years | 25.05 to 50 pack-years | 2.292535 | 0.321637 |
| lung_cancer | 343580 | 0 | 0 pack-years | 0.05 to 25 pack-years | 1.481605 | 0.347782 |
| lung_cancer | 343580 | 0 | 0 pack-years | 50 to 75 pack-years | 2.778819 | 0.35334 |
| lung_cancer | 343580 | 0 | 0 pack-years | 25 to 50 pack-years | 2.229535 | 0.34529 |
| lung_cancer | 343580 | 0 | 0 pack-years | 0.05 to 25 pack-years | 1.481605 | 0.371058 |
| lung_cancer | 343580 | 0 | 0 pack-years | 76 to 100 pack-years | 3.332205 | 0.359786 |
| lung_cancer | 355961 | 0 | 0 pack-years | 0 to 30 pack-years | 1.84055 | 0.364431 |
| lung_cancer | 355961 | 0 | 0 pack-years | 31 to 45 pack-years | 2.197225 | 0.348639 |
| lung_cancer | 355961 | 0 | 0 pack-years | 47 to 70.5 pack-years | 3.148453 | 0.326268 |
| lung_cancer | 355963 | 0 | 0 pack-years | 20 to 39 pack-years | 2.24071 | 0.369084 |
| lung_cancer | 355963 | 0 | 0 pack-years | 1 to 19 pack-years | 1.064711 | 0.510204 |
| lung_cancer | 355963 | 0 | 0 pack-years | 40 to 60 pack-years | 2.867899 | 0.330473 |
| lung_cancer | 355965 | 0 | 0 pack-years | 0 to 25 pack-years | 1.458615 | 0.40935 |
| lung_cancer | 355965 | 0 | 0 pack-years | 25 to 49.99 pack-years | 2.282382 | 0.314973 |
| lung_cancer | 355965 | 0 | 0 pack-years | 50 to 75 pack-years | 3.148453 | 0.316414 |
| lung_cancer | 355970 | 0 | 0 pack-years | 40 to 49 pack-years | 3.478158 | 0.100781 |
| lung_cancer | 355970 | 0 | 0 pack-years | 50 to 59 pack-years | 3.835142 | 0.116256 |
| lung_cancer | 355970 | 0 | 0 pack-years | 60 to 90 pack-years | 3.246491 | 0.307711 |
| lung_cancer | 355970 | 0 | 0 pack-years | 60 to 90 pack-years | 3.864931 | 0.109635 |
| lung_cancer | 355970 | 0 | 0 pack-years | 50 to 59 pack-years | 2.884801 | 0.277904 |
| lung_cancer | 355970 | 0 | 0 pack-years | 30 to 39 pack-years | 3.202746 | 0.085034 |
| lung_cancer | 355970 | 0 | 0 pack-years | 40 to 49 pack-years | 2.639057 | 0.215015 |
| lung_cancer | 355970 | 0 | 0 pack-years | 30 to 39 pack-years | 2.557227 | 0.138427 |
| lung_cancer | 355970 | 1 | 0 pack-years | 1 to 19 pack-years | 2.186051 | 0.091722 |
| lung_cancer | 355970 | 0 | 0 pack-years | 20 to 29 pack-years | 1.987874 | 0.118815 |
| lung_cancer | 355970 | 0 | 0 pack-years | 1 to 19 pack-years | 1.987874 | 0.118815 |
| lung_cancer | 355970 | 0 | 0 pack-years | 20 to 29 pack-years | 2.839078 | 0.107528 |
| lung_cancer | 357351 | 0 | 0 pack-years | 0 to 20 pack-years | 1.743969 | 1.044491 |
| lung_cancer | 357351 | 0 | 0 pack-years | 0 to 20 pack-years | 1.989243 | 0.690974 |
| lung_cancer | 357351 | 0 | 0 pack-years | 20 to 40 pack-years | 2.119863 | 0.681395 |
| lung_cancer | 357351 | 0 | 0 pack-years | 41 to 61.5 pack-years | 2.784394 | 0.775706 |
| lung_cancer | 357351 | 0 | 0 pack-years | 21 to 31.5 pack-years | 2.995232 | 0.960429 |
| lung_cancer | 357367 | 0 | 0 pack-years | 41 to 61.5 pack-years | 2.642622 | 0.297044 |
| lung_cancer | 357367 | 0 | 0 pack-years | 20 to 40 pack-years | 2.273156 | 0.28479 |
| lung_cancer | 357367 | 0 | 0 pack-years | 0 to 20 pack-years | 0.57098 | 0.33293 |
| lung_cancer | 357367 | 0 | 0 pack-years | 41 to 61.5 pack-years | 2.642622 | 0.297044 |
| lung_cancer | 357367 | 0 | 0 pack-years | 20 to 40 pack-years | 1.65058 | 0.383388 |
| lung_cancer | 357400 | 0 | 0 pack-years | 1 to 29 pack-years | 1.335001 | 0.174474 |
| lung_cancer | 357400 | 0 | 0 pack-years | 30 to 50 pack-years | 2.028148 | 0.268528 |
| lung_cancer | 357400 | 0 | 0 pack-years | 51 to 85 pack-years | 2.541602 | 0.269163 |
| lung_cancer | 357400 | 0 | 0 pack-years | 86 to 100 pack-years | 2.701361 | 0.272223 |
| lung_cancer | 357402 | 0 | 0 pack-years | 40 to 60 pack-years | 1.678964 | 0.206081 |
| lung_cancer | 357402 | 0 | 0 pack-years | 20 to 39.95 pack-years | 1.272566 | 0.190076 |
| lung_cancer | 357402 | 0 | 0 pack-years | 41 to 60 pack-years | 1.713798 | 0.184317 |
| lung_cancer | 357402 | 0 | 0 pack-years | 0 to 19 pack-years | 0.65752 | 0.174474 |
| lung_cancer | 357402 | 0 | 0 pack-years | 0 to 19 pack-years | 0.609766 | 0.280058 |
| lung_cancer | 357402 | 0 | 0 pack-years | 20 to 39.95 pack-years | 1.205971 | 0.219968 |
| lung_cancer | 357404 | 0 | 0 pack-years | 40 to 60 pack-years | 2.928524 | 0.712103 |
| lung_cancer | 357404 | 0 | 0 pack-years | 21 to 40 pack-years | 2.721295 | 0.716635 |
| lung_cancer | 357404 | 0 | 0 pack-years | 1 to 20 pack-years | 1.064711 | 0.844476 |
| lung_cancer | 357406 | 0 | 0 pack-years | 0 to 20 pack-years | 0.300105 | 0.396825 |
| lung_cancer | 357406 | 0 | 0 pack-years | 60 to 90 pack-years | 1.280934 | 0.727041 |
| lung_cancer | 357406 | 0 | 0 pack-years | 0 to 20 pack-years | 1.373716 | 0.359726 |
| lung_cancer | 357406 | 0 | 0 pack-years | 21 to 40 pack-years | 1.435085 | 0.358965 |
| lung_cancer | 357406 | 0 | 0 pack-years | 41 to 60 pack-years | 1.931521 | 0.345682 |
| lung_cancer | 357406 | 0 | 0 pack-years | 41 to 60 pack-years | 2.000128 | 0.556806 |
| lung_cancer | 357406 | 0 | 0 pack-years | 60 to 90 pack-years | 2.046402 | 0.345409 |
| lung_cancer | 357406 | 0 | 0 pack-years | 21 to 40 pack-years | 2.195 | 0.537476 |
| lung_cancer | 357415 | 0 | 0 pack-years | 33 to 49.5 pack-years | 3.367296 | 0.139866 |
| lung_cancer | 357415 | 0 | 0 pack-years | 33 to 49.5 pack-years | 3.328627 | 0.179211 |
| lung_cancer | 357415 | 0 | 0 pack-years | 19 to 32 pack-years | 2.564949 | 0.125589 |
| lung_cancer | 357415 | 0 | 0 pack-years | 19 to 32 pack-years | 2.541602 | 0.178772 |
| lung_cancer | 357415 | 0 | 0 pack-years | 0 to 8 pack-years | 0.741937 | 0.218659 |
| lung_cancer | 357415 | 0 | 0 pack-years | 9 to 18 pack-years | 1.280934 | 0.198413 |
| lung_cancer | 357415 | 0 | 0 pack-years | 9 to 18 pack-years | 1.410987 | 0.143106 |
| lung_cancer | 357437 | 0 | 0 pack-years | 90 to 100 pack-years | 3.020425 | 1.029119 |
| lung_cancer | 357437 | 0 | 0 pack-years | 0 to 44 pack-years | 1.871802 | 0.255102 |
| lung_cancer | 357437 | 0 | 0 pack-years | 45 to 89 pack-years | 2.541602 | 0.253093 |
| lung_cancer | 357447 | 0 | 0 pack-years | 20.25 to 40 pack-years | 1.84055 | 0.465662 |
| lung_cancer | 357447 | 0 | 0 pack-years | 40.25 to 60.375 pack-years | 2.631889 | 0.405594 |
| lung_cancer | 357447 | 0 | 0 | pack-years | 0.25 to 20 pack-years | 0.262364 | 0.804553 |
| lung_cancer | 357451 | 0 | 0 | pack-years | 1 to 32 pack-years | 0.378436 | 0.232387 |
| lung_cancer | 357451 | 0 | 0 | pack-years | 33 to 53 pack-years | 1.302913 | 0.193406 |
| lung_cancer | 357451 | 0 | 0 | pack-years | 54 to 81 pack-years | 1.517323 | 0.189089 |
| lung_cancer | 357451 | 0 | 0 | pack-years | 82 to 100 pack-years | 1.528228 | 0.188698 |
| lung_cancer | 357644 | 0 | 0 | pack-years | 0 to 20 pack-years | 1.238374 | 0.119431 |
| lung_cancer | 357644 | 0 | 0 | pack-years | 20 to 29 pack-years | 2.175887 | 0.161258 |
| lung_cancer | 357644 | 0 | 0 | pack-years | 21 to 30 pack-years | 2.899772 | 0.113638 |
| lung_cancer | 357644 | 0 | 0 | pack-years | 30 to 39 pack-years | 3.328985 | 0.114552 |
| lung_cancer | 357644 | 0 | 0 | pack-years | 31 to 39 pack-years | 3.328985 | 0.114552 |
| lung_cancer | 357644 | 0 | 0 | pack-years | 30 to 59 pack-years | 2.397895 | 0.392161 |
| lung_cancer | 357757 | 0 | 0 | pack-years | 0 to 29 pack-years | 1.987874 | 0.310665 |
| lung_cancer | 357757 | 0 | 0 | pack-years | 30 to 59 pack-years | 3.284664 | 0.34969 |
| lung_cancer | 357765 | 0 | 0 | pack-years | 61 to 90 pack-years | 4.270676 | 0.517404 |
| lung_cancer | 357765 | 0 | 0 | pack-years | 61 to 91.5 pack-years | 4.732684 | 0.602095 |
| lung_cancer | 357765 | 0 | 0 | pack-years | 31 to 40 pack-years | 3.789177 | 0.334367 |
| lung_cancer | 357765 | 0 | 0 | pack-years | 60 to 90 pack-years | 3.11795 | 0.465729 |
| lung_cancer | 357765 | 0 | 0 | pack-years | 30 to 59 pack-years | 3.284664 | 0.34969 |
| lung_cancer | 357765 | 0 | 0 | pack-years | 21 to 25 pack-years | 3.075929 | 0.375295 |
| lung_cancer | 357765 | 0 | 0 | pack-years | 16 to 20 pack-years | 2.230014 | 0.35824 |
| lung_cancer | 357765 | 0 | 0 | pack-years | 11 to 15 pack-years | 2.045109 | 0.372918 |
| lung_cancer | 357765 | 0 | 0 | pack-years | 6 to 10 pack-years | 1.302913 | 0.393051 |
| lung_cancer | 357765 | 0 | 0 | pack-years | 1 to 5 pack-years | 0.542324 | 0.456811 |
| lung_cancer | 357792 | 0 | 0 | pack-years | 1 to 9 pack-years | 0.693147 | 0.204082 |
| lung_cancer | 357792 | 0 | 0 | pack-years | 10 to 19 pack-years | 1.252763 | 0.182216 |
| lung_cancer | 357792 | 0 | 0 | pack-years | 20 to 29 pack-years | 1.774952 | 0.177274 |
| lung_cancer | 357792 | 0 | 0 | pack-years | 30 to 39 pack-years | 2.219203 | 0.169144 |
| lung_cancer | 357792 | 0 | 0 | pack-years | 40 to 60 pack-years | 3.063391 | 0.158545 |
| lung_cancer | 357961 | 0 | 0 | pack-years | 40 to 60 pack-years | 1.832581 | 0.65551 |
| lung_cancer | 357961 | 0 | 0 | pack-years | 20 to 39 pack-years | 1.437463 | 0.66472 |
| lung_cancer | 357961 | 0 | 0 | pack-years | 1 to 19 pack-years | 1.358409 | 0.667594 |
| lung_cancer | 357961 | 0 | 0 | pack-years | 40 to 60 pack-years | 1.131402 | 0.27156 |
| lung_cancer | 357961 | 0 | 0 | pack-years | 1 to 19 pack-years | 0.277632 | 0.351925 |
| lung_cancer | 357961 | 0 | 0 | pack-years | 20 to 39 pack-years | 1.166271 | 0.208214 |
| lung_cancer | 358161 | 0 | 0 | pack-years | 1 to 20 pack-years | 0.165514 | 0.462859 |
| lung_cancer | 358161 | 0 | 0 | pack-years | 21 to 31.5 pack-years | 0.788457 | 0.396568 |
| lung_cancer | 358213 | 0 | 0 | pack-years | 1 to 39 pack-years | 1.423108 | 8.003442 |
| lung_cancer | 358213 | 0 0 pack-years | 40 to 60 pack-years | 2.385086 | 3.058406 |
| lung_cancer | 358338 | 0 0 pack-years | 1 to 20 pack-years | 1.393766 | 0.208892 |
| lung_cancer | 358338 | 0 0 pack-years | 20 to 50 pack-years | 2.069391 | 0.190682 |
| lung_cancer | 358338 | 0 0 pack-years | 51 to 76.5 pack-years | 2.271094 | 0.192182 |
| lung_cancer | 358479 | 0 0 pack-years | 40 to 60 pack-years | 2.235269 | 0.01087 |
| lung_cancer | 358479 | 0 0 pack-years | 1 to 40 pack-years | 0.645007 | 1.290902 |
| lung_cancer | 358502 | 0 0 pack-years | 0 to 19 pack-years | 0.741937 | 0.327988 |
| lung_cancer | 358502 | 0 0 pack-years | 20 to 39 pack-years | 1.131402 | 0.213957 |
| lung_cancer | 358502 | 0 0 pack-years | 40 to 59 pack-years | 1.774952 | 0.203217 |
| lung_cancer | 358502 | 0 0 pack-years | 60 to 90 pack-years | 2.04122 | 0.228598 |
| lung_cancer | 358552 | 0 0 pack-years | 20 to 38 pack-years | 2.901422 | 0.220061 |
| lung_cancer | 358552 | 0 0 pack-years | 40 to 60 pack-years | 2.509599 | 0.29036 |
| lung_cancer | 358552 | 0 0 pack-years | 40 to 60 pack-years | 3.74242 | 0.213391 |
| lung_cancer | 358552 | 0 0 pack-years | 1 to 18 pack-years | 1.774952 | 0.250778 |
| lung_cancer | 358552 | 0 0 pack-years | 20 to 38 pack-years | 1.931521 | 0.232919 |
| lung_cancer | 358558 | 0 0 pack-years | 0 to 34 pack-years | 0.891998 | 0.531114 |
| lung_cancer | 358558 | 0 0 pack-years | 35 to 52.5 pack-years | 1.675226 | 0.471987 |
| lung_cancer | 358563 | 0 0 pack-years | 0 to 18 pack-years | 0.65752 | 0.611981 |
| lung_cancer | 358563 | 0 0 pack-years | 20 to 38 pack-years | 1.223775 | 0.427671 |
| lung_cancer | 358563 | 0 0 pack-years | 61 to 91.5 pack-years | 1.451614 | 0.538881 |
| lung_cancer | 358563 | 0 0 pack-years | 40 to 58 pack-years | 1.704748 | 0.434137 |
| lung_cancer | 358565 | 0 0 pack-years | 20 to 28 pack-years | 1.774952 | 0.242131 |
| lung_cancer | 358565 | 0 0 pack-years | 0 to 9 pack-years | 0.09531 | 0.20872 |
| lung_cancer | 358565 | 0 0 pack-years | 10 to 18 pack-years | 1.064711 | 0.246305 |
| lung_cancer | 358565 | 0 0 pack-years | 30 to 45 pack-years | 2.873565 | 0.227718 |
| lung_cancer | 358577 | 0 0 pack-years | 50 to 58 pack-years | 1.928619 | 0.217282 |
| lung_cancer | 358577 | 0 0 pack-years | 61 to 91.5 pack-years | 2.166765 | 0.187601 |
| lung_cancer | 358577 | 0 0 pack-years | 40 to 48 pack-years | 1.78615 | 0.181096 |
| lung_cancer | 358577 | 0 0 pack-years | 1 to 18 pack-years | 1.150572 | 0.219582 |
| lung_cancer | 358577 | 0 0 pack-years | 20 to 28 pack-years | 1.366092 | 0.192628 |
| lung_cancer | 358577 | 0 0 pack-years | 30 to 38 pack-years | 1.669592 | 0.175353 |
| lung_cancer | 358577 | 0 0 pack-years | 0 to 20.3 pack-years | -1.27297 | 1.029519 |
| lung_cancer | 358597 | 0 0 pack-years | 21.3 to 31.95 pack-years | 2.489894 | 0.220835 |
| lung_cancer | 358717 | 0 0 pack-years | 0 to 33 pack-years | 1.860975 | 0.260656 |
| lung_cancer | 358717 | 0 0 pack-years | 34 to 56 pack-years | 2.424803 | 0.265487 |
| lung_cancer | 358717 | 0 0 pack-years | 58 to 87 pack-years | 3.044522 | 0.269679 |
| lung_cancer | 358794 | 1 0 pack-years | 1 to 4 pack-years | 1.345472 | 0.110943 |
| lung_cancer | 358794 | 1 0 pack-years | 1 to 4 pack-years | 1.745716 | 0.146917 |
| lung_cancer | 358794 | 1 0 pack-years | 6 to 14 pack-years | 2.539237 | 0.075906 |
| lung_cancer | 358794 | 1 0 pack-years | 6 to 14 pack-years | 2.605648 | 0.103058 |
| lung_cancer | 358794 | 1 0 pack-years | 16 to 24 pack-years | 3.173878 | 0.076744 |
| lung_cancer | 358794 | 1 0 pack-years | 16 to 24 pack-years | 3.304686 | 0.099924 |
| lung_cancer | 359451 | 1 | 0 pack-years | 40 to 60 pack-years | 1.247032 | 0.104093 |
| lung_cancer | 359451 | 1 | 0 pack-years | 30 to 39 pack-years | 1.033184 | 0.139878 |
| lung_cancer | 359451 | 0 | 0 pack-years | 1 to 8 pack-years | 0.231112 | 0.145773 |
| lung_cancer | 359451 | 0 | 0 pack-years | 10 to 18 pack-years | 0.636577 | 0.144423 |
| lung_cancer | 359451 | 0 | 0 pack-years | 20 to 28 pack-years | 0.955511 | 0.136381 |
| lung_cancer | 413177 | 0 | 0 pack-years | 10.9 to 22.5 pack-years | 1.808289 | 0.103435 |
| lung_cancer | 413177 | 0 | 0 pack-years | 10.9 to 22.5 pack-years | 1.722767 | 0.160774 |
| lung_cancer | 413177 | 0 | 0 pack-years | 5.4 to 10.8 pack-years | 1.098612 | 0.231048 |
| lung_cancer | 413177 | 0 | 0 pack-years | 1 to 5.3 pack-years | 0.693147 | 0.333758 |
| lung_cancer | 413177 | 1 | 0 pack-years | 22.6 to 33.9 pack-years | 0.693147 | 0.087977 |
| lung_cancer | 413177 | 1 | 0 pack-years | 10.9 to 22.5 pack-years | 0.470004 | 0.073903 |
| lung_cancer | 413177 | 0 | 0 pack-years | 5.4 to 10.8 pack-years | 0.262364 | 0.135364 |
| lung_cancer | 413177 | 0 | 0 pack-years | 22.6 to 33.9 pack-years | 2.517656 | 0.104276 |
| lung_cancer | 413177 | 0 | 0 pack-years | 5.4 to 10.8 pack-years | 1.223775 | 0.13994 |
| lung_cancer | 413177 | 0 | 0 pack-years | 10.9 to 22.5 pack-years | 3.353407 | 0.409372 |
| lung_cancer | 413177 | 0 | 0 pack-years | 5.4 to 10.8 pack-years | 2.00148 | 0.560516 |
| lung_cancer | 413177 | 0 | 0 pack-years | 1 to 5.3 pack-years | 3.356762 | 0.62701 |
| lung_cancer | 413177 | 0 | 0 pack-years | 22.6 to 33.9 pack-years | 0.182322 | 0.965354 |
| lung_cancer | 413177 | 0 | 0 pack-years | 5.4 to 10.8 pack-years | 0.741937 | 0.329333 |
| lung_cancer | 413177 | 0 | 0 pack-years | 22.6 to 33.9 pack-years | 2.60269 | 1.029143 |
| lung_cancer | 413177 | 0 | 0 pack-years | 1 to 30 pack-years | 0.916291 | 0.308808 |
| lung_cancer | 413177 | 0 | 0 pack-years | 20 to 39 pack-years | 0.693147 | 0.369898 |
| lung_cancer | 413177 | 0 | 0 pack-years | 51 to 76.5 pack-years | 3.218876 | 0.083496 |
| lung_cancer | 413177 | 0 | 0 pack-years | 1 to 30 pack-years | 1.916923 | 0.829082 |
| lung_cancer | 413177 | 0 | 0 pack-years | 1 to 33 pack-years | 0.641854 | 0.075943 |
| lung_cancer | 413177 | 0 | 0 pack-years | 34 to 54 pack-years | 3.87182 | 0.33752 |
| lung_cancer | 413177 | 0 | 0 pack-years | 55 to 84 pack-years | 2.674149 | 0.43068 |
| lung_cancer | 413177 | 0 | 0 pack-years | 85 to 100 pack-years | 2.78819 | 0.345418 |
| lung_cancer | 413177 | 0 | 0 pack-years | 20 to 39 pack-years | -0.91629 | 2.933673 |
| lung_cancer | 413177 | 0 | 0 pack-years | 1 to 19 pack-years | 0.641854 | 0.308808 |
| lung_cancer | 413177 | 0 | 0 pack-years | 20 to 39 pack-years | 0.693147 | 0.369898 |
| lung_cancer | 413177 | 0 | 0 pack-years | 1 to 19 pack-years | 0.916291 | 0.520408 |
| lung_cancer | 413177 | 0 | 0 pack-years | 40 to 60 pack-years | 1.93922 | 0.494743 |
| lung_cancer | 413177 | 0 | 0 pack-years | 40 to 60 pack-years | 3.981549 | 0.234444 |
| lung_cancer | 413177 | 0 | 0 pack-years | 20 to 39 pack-years | 3.449988 | 0.95724 |
| lung_cancer | 413177 | 0 | 0 pack-years | 20 to 39 pack-years | 3.404552 | 0.231372 |
| lung_cancer | 413177 | 0 | 0 pack-years | 20 to 39 pack-years | 3.317816 | 0.561964 |
| lung_cancer | 413177 | 0 | 0 pack-years | 40 to 60 pack-years | 2.476538 | 0.437318 |
| lung_cancer | 413177 | 0 | 0 pack-years | 40 to 60 pack-years | 3.511545 | 0.794243 |
| lung_cancer | count | pack-years | range                  | statistic | p-value  |
|------------|-------|------------|------------------------|-----------|----------|
| lung_cancer | 419675| 0          | 0 to 19 pack-years     | 2.140066  | 0.231092 |
| lung_cancer | 419675| 0          | 0 to 19 pack-years     | 1.974081  | 0.60941  |
| lung_cancer | 419675| 0          | 0 to 19 pack-years     | 1.648659  | 0.539639 |
| lung_cancer | 419675| 0          | 20 to 39 pack-years    | 2.282382  | 0.304561 |
| lung_cancer | 419675| 0          | 0 to 19 pack-years     | 0.530628  | 0.22509  |
| lung_cancer | 419696| 0          | 1 to 29 pack-years     | 1.939922  | 0.448361 |
| lung_cancer | 419696| 0          | 30 to 44 pack-years    | 2.476538  | 0.454468 |
| lung_cancer | 419696| 0          | 45 to 67.5 pack-years  | 3.693867  | 0.467052 |
| lung_cancer | 419717| 0          | 21 to 30 pack-years    | 2.318458  | 0.274938 |
| lung_cancer | 419717| 0          | 31 to 46.5 pack-years  | 3.165053  | 0.258333 |
| lung_cancer | 419717| 0          | 1 to 10 pack-years     | 1.311032  | 0.251664 |
| lung_cancer | 419717| 0          | 11 to 20 pack-years    | 1.948763  | 0.263097 |
| lung_cancer | 419728| 0          | 1 to 19 pack-years     | 1.105257  | 0.268617 |
| lung_cancer | 419728| 0          | 20 to 29 pack-years    | 2.543176  | 0.350164 |
| lung_cancer | 419728| 0          | 30 to 45 pack-years    | 3.255015  | 0.314153 |
| lung_cancer | 426275| 0          | 80 to 100 pack-years   | 3.238678  | 0.113045 |
| lung_cancer | 426275| 0          | 80 to 100 pack-years   | 3.86073   | 0.102041 |
| lung_cancer | 426275| 0          | 60 to 79 pack-years    | 3.763523  | 0.09411  |
| lung_cancer | 426275| 0          | 60 to 79 pack-years    | 3.678829  | 0.108225 |
| lung_cancer | 426275| 0          | 80 to 100 pack-years   | 3.591818  | 0.103306 |
| lung_cancer | 426275| 0          | 40 to 59 pack-years    | 3.401197  | 0.072279 |
| lung_cancer | 426275| 0          | 60 to 79 pack-years    | 3.397858  | 0.104088 |
| lung_cancer | 426275| 0          | 40 to 59 pack-years    | 3.367296  | 0.097643 |
| lung_cancer | 426275| 0          | 40 to 59 pack-years    | 3.20746   | 0.099552 |
| lung_cancer | 426275| 0          | 80 to 100 pack-years   | 3.903991  | 0.104407 |
| lung_cancer | 426275| 0          | 60 to 79 pack-years    | 3.144152  | 0.100062 |
| lung_cancer | 426275| 0          | 0 to 19 pack-years     | 1.601406  | 0.115207 |
| lung_cancer | 426275| 0          | 20 to 39 pack-years    | 2.360854  | 0.082307 |
| lung_cancer | 426275| 1          | 0 pack-years           | 2.509599  | 0.129003 |
| lung_cancer | 426275| 1          | 0 pack-years           | 2.70805   | 0.078231 |
| lung_cancer | 426275| 0          | 20 to 39 pack-years    | 3.186353  | 0.112793 |
| lung_cancer | 426275| 1          | 0 pack-years           | 2.833213  | 0.117047 |
| lung_cancer | 426275| 0          | 40 to 59 pack-years    | 2.879198  | 0.078824 |
| lung_cancer | 426275| 1          | 20 to 39 pack-years    | 3.095578  | 0.07503  |
| lung_cancer | 426275| 0          | 20 to 39 pack-years    | 3.76001   | 0.109791 |
| lung_cancer | 450624| 0          | 15 to 30 pack-years    | 1.948763  | 0.176309 |
| lung_cancer | 450624| 0          | 1 to 15 pack-years     | 0.989541  | 0.171452 |
| lung_cancer | 450624| 0          | 31 to 46.5 pack-years  | 2.520113  | 0.186111 |
| lung_cancer | 450624| 0          | 15 to 30 pack-years    | 1.451614  | 0.258872 |
| lung_cancer | 450624| 0          | 1 to 15 pack-years     | 0.727549  | 0.244671 |
| lung_cancer | 450624| 0          | 31 to 46.5 pack-years  | 1.809927  | 0.278087 |
| lung_cancer | 499241| 0          | 1 to 5 pack-years      | 1.337629  | 0.169717 |
| lung_cancer | 499241| 0          | 6 to 15 pack-years     | 2.066863  | 0.16266  |
| lung_cancer | pack-years | pack-years | pack-years | pack-years | pack-years |
|-------------|------------|------------|------------|------------|------------|
| 499241      | 0          | 0          | 16 to 22.5 | 3.05586    | 0.160008   |
| 502075      | 0          | 0          | 0.1 to 9.9 | 0.70398    | 0.133908   |
| 502075      | 0          | 0          | 10 to 19.9 | 1.363537   | 0.099174   |
| 502075      | 0          | 0          | 20 to 29.9 | 1.976855   | 0.089892   |
| 502075      | 0          | 0          | 30 to 39.9 | 2.36368    | 0.088635   |
| 502075      | 0          | 0          | 40 to 60   | 2.899221   | 0.079635   |
| 502124      | 0          | 0          | 26 to 35   | 3.378611   | 0.175655   |
| 502124      | 1          | 0          | 16 to 25   | 3.16167    | 0.115918   |
| 502124      | 0          | 0          | 35 to 52.5 | 3.653511   | 0.208709   |
| 502124      | 0          | 0          | 1 to 5     | 2.221375   | 0.298299   |
| 502124      | 1          | 0          | 6 to 15    | 2.668616   | 0.123646   |
| 502126      | 1          | 0          | 1 to 29    | 0.601361   | 0.103087   |
| 502126      | 1          | 0          | 30 to 49   | 1.067259   | 0.127873   |
| 502126      | 1          | 0          | 50 to 75   | 1.256869   | 0.163028   |
| 502126      | 0          | 0          | 0 to 10    | 0.157004   | 0.309121   |
| 502130      | 0          | 0          | 10 to 19   | 1.316408   | 0.144444   |
| 502130      | 0          | 0          | 20 to 29   | 1.774952   | 0.127076   |
| 502130      | 0          | 0          | 30 to 45   | 2.487404   | 0.094866   |
| 502143      | 0          | 0          | 2.5 to 11  | 3.76584    | 1.017146   |
| 502143      | 0          | 0          | 12 to 18   | 4.232607   | 1.024342   |
| 502147      | 1          | 0          | 40 to 60   | 0.900161   | 0.078195   |
| 502147      | 1          | 0          | 1 to 39    | 0.641854   | 0.091949   |
| 502184      | 0          | 0          | 1 to 9     | -0.44629   | 0.64545    |
| 502184      | 0          | 0          | 10 to 19   | 2.009555   | 0.370232   |
| 502184      | 0          | 0          | 20 to 30   | 2.998229   | 0.30923    |
| 502184      | 0          | 0          | 1 to 9     | 0.559616   | 0.608183   |
| 502184      | 0          | 0          | 10 to 19   | 0.277632   | 0.707293   |
| 502184      | 0          | 0          | 20 to 30   | 2.318458   | 0.439651   |
| 502190      | 0          | 0          | 0 to 30    | 1.249902   | 0.444242   |
| 502190      | 0          | 0          | 0 to 30    | 1.181727   | 0.340722   |
| 502190      | 0          | 0          | 30 to 45   | 1.742219   | 0.278195   |
| 502190      | 0          | 0          | 30 to 45   | 2.346602   | 0.509685   |
| 502192      | 0          | 0          | 20 to 30   | 2.285439   | 0.151108   |
| 502192      | 1          | 0          | 0 to 20    | 3.030134   | 0.12301    |
| 502202      | 0          | 0          | 0 to 9     | -0.21072   | 0.187965   |
| 502202      | 0          | 0          | 10 to 19   | 0.875469   | 0.18883    |
| 502202      | 0          | 0          | 20 to 29   | 1.474763   | 0.19744    |
| 502202      | 0          | 0          | 30 to 45   | 2.214846   | 0.160665   |
| 502208      | 0          | 0          | 1 to 9     | 0.076035   | 0.239733   |
| 502208      | 0          | 0          | 10 to 20   | 0.111541   | 0.245367   |
| 502208      | 1          | 0          | 21 to 30   | 0.497132   | 0.182418   |
| 502208      | 1          | 0          | 31 to 40   | 0.214305   | 0.278356   |
| 502208      | 0          | 0          | 41 to 50   | 0.798858   | 0.27012    |
| Condition                        | PersonID | Pack-Years | Range of Pack-Years | Log-Likelihood | Std-Error |
|--------------------------------|----------|------------|--------------------|----------------|-----------|
| Lung Cancer                    | 502208   | 0          | 0                  | 0.383219       | 0.357386  |
| Lung Cancer                    | 502208   | 0          | 0                  | 1.299374       | 0.304469  |
| Lung Cancer                    | 502213   | 0          | 0                  | 2.619554       | 0.127073  |
| Lung Cancer                    | 502213   | 0          | 0                  | 1.980049       | 0.134067  |
| Lung Cancer                    | 502213   | 0          | 1                  | 1.019317       | 0.151592  |
| Lung Cancer                    | 502215   | 0          | 0                  | 0.542324       | 0.189372  |
| Lung Cancer                    | 502215   | 0          | 1                  | 0.920283       | 0.198394  |
| Lung Cancer                    | 502234   | 0          | 0                  | 0.587787       | 0.404112  |
| Lung Cancer                    | 502234   | 0          | 2                  | 2.140066       | 0.411911  |
| Lung Cancer                    | 502234   | 0          | 4                  | 3.218876       | 0.437929  |
| Lung Cancer                    | 502241   | 0          | 0                  | 0.604316       | 0.668348  |
| Lung Cancer                    | 502241   | 0          | 1                  | 0.565314       | 0.574545  |
| Lung Cancer                    | 502246   | 0          | 0                  | 2.137771       | 0.275743  |
| Lung Cancer                    | 502246   | 0          | 1                  | 1.238374       | 0.283247  |
| Lung Cancer                    | 502252   | 0          | 1                  | 1.413423       | 0.289575  |
| Lung Cancer                    | 502252   | 0          | 4                  | 1.728109       | 0.272142  |
| Lung Cancer                    | 502407   | 0          | 0                  | 0.675645       | 0.1948    |
| Lung Cancer                    | 502407   | 0          | 2                  | 0.957433       | 0.178998  |
| Lung Cancer                    | 502407   | 0          | 4                  | 1.24973        | 0.171421  |
| Lung Cancer                    | 502407   | 0          | 6                  | 1.374516       | 0.166037  |
| Lung Cancer                    | 502407   | 0          | 1                  | 0.22594        | 0.100394  |
| Lung Cancer                    | 502407   | 0          | 5                  | 1.19189        | 0.073833  |
| Lung Cancer                    | 502407   | 0          | 2                  | 2.389139       | 0.056879  |
| Lung Cancer                    | 502421   | 0          | 1                  | 0.972179       | 0.061423  |
| Lung Cancer                    | 502421   | 0          | 1                  | 1.099545       | 0.06189   |
| Lung Cancer                    | 502421   | 0          | 1                  | 0.465682       | 0.073277  |
| Lung Cancer                    | 502433   | 0          | 1                  | 1.068497       | 0.275705  |
| Lung Cancer                    | 502433   | 0          | 2                  | 1.268917       | 0.323224  |
| Lung Cancer                    | 502458   | 0          | 0                  | 1.686399       | 0.353647  |
| Lung Cancer                    | 502458   | 0          | 2                  | 2.549445       | 0.336667  |
| Lung Cancer                    | 502458   | 0          | 5                  | 3.135494       | 0.34147   |
| Lung Cancer                    | 502458   | 0          | 7                  | 3.74242        | 0.346392  |
| Lung Cancer                    | 502460   | 0          | 1                  | -0.09431       | 0.371826  |
| Lung Cancer                    | 502460   | 0          | 2                  | 1.223775       | 0.331843  |
| Lung Cancer                    | 502460   | 0          | 4                  | 1.560248       | 0.347486  |
| Lung Cancer                    | 502482   | 1          | 0                  | 0.245922       | 0.11096   |
| Lung Cancer                    | 502482   | 1          | 1                  | 0.435089       | 0.109771  |
| Macular Degeneration           | 261355   | 0          | 0                  | 0.231112       | 0.400875  |
| Macular Degeneration           | 261355   | 0          | 2                  | 0.900161       | 0.227103  |
| Macular Degeneration           | 359130   | 0          | 15                 | 0.336472       | 0.291545  |
| Condition                  | Code    | Start | End     |包装单位 | t 值 | p 值        |
|----------------------------|---------|-------|---------|---------|------|------------|
| macular_degeneration       | 359130  | 0     | 14      | cigarettes per day | 0.470004 | 0.302934   |
| macular_degeneration       | 359130  | 0     | 25      | 37.5 cigarettes per day | 0.875469 | 0.276361   |
| multiple_sclerosis         | 221241  | 0     | 80      | cigarettes per day | 1.20896  | 0.47863    |
| multiple_sclerosis         | 348023  | 0     | 16      | 24 cigarettes per day | 0.693147 | 0.063776   |
| multiple_sclerosis         | 348023  | 1     | 4       | cigarettes per day | 0.693147 | 0.204082   |
| multiple_sclerosis         | 348023  | 0     | 16      | 24 cigarettes per day | 0.587787 | 0.113379   |
| multiple_sclerosis         | 348023  | 0     | 11      | 16.5 cigarettes per day | 0.530628 | 0.07503    |
| multiple_sclerosis         | 348023  | 0     | 5       | 10 cigarettes per day | 0.530628 | 0.15006    |
| multiple_sclerosis         | 348023  | 0     | 0       | 4 cigarettes per day | 0.530628 | 0.255102   |
| multiple_sclerosis         | 348023  | 0     | 16      | 24 cigarettes per day | 0.405465 | 0.119048   |
| multiple_sclerosis         | 348023  | 1     | 5       | 10 cigarettes per day | 0.641854 | 0.120883   |
| multiple_sclerosis         | 348023  | 0     | 11      | 16.5 cigarettes per day | 0.336472 | 0.127551   |
| multiple_sclerosis         | 348023  | 0     | 16      | 24 cigarettes per day | 0.182322 | 0.127551   |
| multiple_sclerosis         | 348023  | 0     | 5       | 10 cigarettes per day | 0.09531  | 0.139147   |
| multiple_sclerosis         | 348023  | 0     | 0       | 4 cigarettes per day | 0.09531  | 0.185529   |
| multiple_sclerosis         | 348023  | 0     | 0       | 4 cigarettes per day | 0       | 0.178571   |
| multiple_sclerosis         | 348023  | 0     | 0       | 16      | 24 cigarettes per day | 0.23688   |
| multiple_sclerosis         | 350715  | 0     | 15      | 22.5 cigarettes per day | 0.587787 | 0.396825   |
| multiple_sclerosis         | 350715  | 0     | 1       | 14 cigarettes per day | 0.470004 | 0.366709   |
| multiple_sclerosis         | 350715  | 0     | 0       | 9 cigarettes per day | -0.35667 | 0.437318   |
| multiple_sclerosis         | 350715  | 0     | 10      | 20 cigarettes per day | 0.336472 | 0.291584   |
| multiple_sclerosis         | 350715  | 0     | 20      | 40 cigarettes per day | 0.641854 | 0.268528   |
| multiple_sclerosis         | 369019  | 0     | 40      | 60 cigarettes per day | 1.704748 | 0.746753   |
| multiple_sclerosis         | 369019  | 0     | 31      | 59 cigarettes per day | 0.019803 | 0.752801   |
| multiple_sclerosis         | 369019  | 0     | 60      | 90 cigarettes per day | 1.589235 | 1.025614   |
| multiple_sclerosis         | 369019  | 0     | 0       | 9 cigarettes per day | 0.262364 | 0.431711   |
| nasopharyngeal_cancer      | 328266  | 0     | 41      | 61.5 pack-years | 1.029619 | 1.685496   |
| nasopharyngeal_cancer      | 328266  | 0     | 0       | 20 pack-years | 1.163151 | 1.100128   |
| nasopharyngeal_cancer      | 328266  | 0     | 0       | 20 pack-years | 1.360977 | 1.03349    |
| nasopharyngeal_cancer      | 328921  | 0     | 0       | 9 pack-years | 0.565314 | 0.933442   |
| nasopharyngeal_cancer      | 328921  | 1     | 10      | 15 pack-years | 1.393766 | 0.714666   |
| nasopharyngeal_cancer      | 328952  | 0     | 0       | 30 pack-years | -0.16252 | 0.464476   |
| nasopharyngeal_cancer      | 328952  | 0     | 30      | 45 pack-years | 0.756122 | 0.439987   |
| nasopharyngeal_cancer      | 346030  | 0     | 60      | 90 pack-years | 1.589235 | 1.025614   |
| nasopharyngeal_cancer      | 346030  | 0     | 31      | 59 pack-years | 1.252763 | 0.575802   |
| nasopharyngeal_cancer      | 346030  | 0     | 60      | 90 pack-years | 1.131402 | 0.370309   |
| nasopharyngeal_cancer      | 346030  | 0     | 0       | 30 pack-years | 0.262364 | 0.431711   |
| nasopharyngeal_cancer      | 346030  | 0     | 0       | 30 pack-years | -0.10536 | 0.340136   |
| cancer                       | pack-years | pack-years | hazard ratio | SE  | p_value  |
|------------------------------|------------|------------|--------------|-----|----------|
| nasopharyngeal cancer        | 346030     | 0          | 31 to 59     | 0.587787 | 0.354308 |
| nasopharyngeal cancer        | 346032     | 0          | 60 to 90     | 1.458615 | 0.646654 |
| nasopharyngeal cancer        | 346032     | 0          | 1 to 4       | 0.641854 | 0.416219 |
| nasopharyngeal cancer        | 346032     | 0          | 35 to 59     | 1.098612 | 0.467687 |
| nasopharyngeal cancer        | 346040     | 0          | 30 to 44     | 0.916291 | 0.377551 |
| nasopharyngeal cancer        | 346040     | 0          | 45 to 67.5   | 1.360977 | 0.379383 |
| nasopharyngeal cancer        | 346040     | 0          | 0 to 14      | 0.262364 | 0.353218 |
| nasopharyngeal cancer        | 346040     | 0          | 15 to 29     | 0.587787 | 0.354308 |
| nasopharyngeal cancer        | 346047     | 0          | 1 to 4       | 0.641854 | 0.416219 |
| nasopharyngeal cancer        | 346047     | 0          | 35 to 59     | 1.098612 | 0.467687 |
| nasopharyngeal cancer        | 346056     | 0          | 0 to 14      | 0.262364 | 0.353218 |
| nasopharyngeal cancer        | 346056     | 0          | 15 to 30     | 0.587787 | 0.354308 |
| nasopharyngeal cancer        | 346056     | 0          | 0 to 14      | 0.48858 | 0.241017 |
| nasopharyngeal cancer        | 346056     | 1          | 16 to 25     | 2.667228 | 0.246776 |
| nasopharyngeal cancer        | 346056     | 0          | 0 to 14      | 0.262364 | 0.333438 |
| nasopharyngeal cancer        | 346056     | 1          | 15 to 30     | 2.38968 | 0.234759 |
| nasopharyngeal cancer        | 346071     | 0          | 1 to 13      | 0.494696 | 0.195993 |
| nasopharyngeal cancer        | 346071     | 0          | 14 to 21     | 0.57098 | 0.196011 |
| nasopharyngeal cancer        | 373803     | 0          | 10 to 19     | 0.122218 | 0.112877 |
| nasopharyngeal cancer        | 373803     | 0          | 0 to 9       | 0.165514 | 0.099447 |
| nasopharyngeal cancer        | 373803     | 0          | 20 to 29     | 0.207014 | 0.109922 |
| nasopharyngeal cancer        | 373803     | 0          | 30 to 45     | 0.438255 | 0.105332 |
| nasopharyngeal cancer        | 502223     | 0          | 16 to 25     | 0.223144 | 0.136612 |
| nasopharyngeal cancer        | 502223     | 0          | 0 to 15      | 0.00995 | 0.139424 |
| nasopharyngeal cancer        | 502223     | 0          | 25 to 37.5   | 0.683097 | 0.116035 |
| other pharynx cancer         | 343375     | 0          | 1 to 20      | 1.686399 | 0.535456 |
| other pharynx cancer         | 343375     | 0          | 21 to 40     | 1.740466 | 0.557515 |
| other pharynx cancer         | 343375     | 0          | 41 to 61.5   | 2.014903 | 0.583107 |
| other pharynx cancer         | 343434     | 0          | 51 to 76.5   | 1.029619 | 0.637755 |
| other pharynx cancer         | 343434     | 0          | 1 to 25      | 0.641854 | 0.980129 |
| other pharynx cancer         | 343434     | 0          | 25 to 50     | 1.410987 | 1.636386 |
| other pharynx cancer         | 343434     | 0          | 1 to 25      | 0    | 0.688776 |
| other pharynx cancer         | 343434     | 1          | 51 to 76.5   | -0.10536 | 0.972789 |
| other pharynx cancer         | 343434     | 0          | 25 to 50     | 0.336472 | 0.69242 |
| other pharynx cancer         | 343450     | 0          | 1 to 28     | 1.252763 | 0.386297 |
| other pharynx cancer         | 343450     | 0          | 48 to 76     | 1.902108 | 0.373134 |
| other pharynx cancer         | 343450     | 1          | 29 to 47     | 2.186051 | 0.375487 |
| other pharynx cancer         | 343450     | 1          | 77 to 100    | 2.587764 | 0.374022 |
| other pharynx cancer         | 359128     | 0          | 0 to 19      | 2.491551 | 2.480487 |
| other pharynx cancer         | 359128     | 0          | 60 to 90     | 3.040706 | 2.302625 |
| Cancer Type         | ID     | Age Group | Pack-Years | Hazard Ratio | 95% CI Lower | 95% CI Upper |
|--------------------|--------|-----------|------------|--------------|--------------|--------------|
| Other Pharynx cancer | 359128 | 40 to 59 pack-years | 2.695303 | 2.130731     |              |              |
| Other Pharynx cancer | 359128 | 20 to 39 pack-years | 1.86408  | 2.202183     |              |              |
| Other Pharynx cancer | 359128 | 60 to 90 pack-years | 1.373716 | 1.11147      |              |              |
| Other Pharynx cancer | 359128 | 0 to 19 pack-years | 0.672944 | 0.978759     |              |              |
| Other Pharynx cancer | 364113 | 1 to 29 pack-years | 0.908259 | 0.102864     |              |              |
| Other Pharynx cancer | 364113 | 30 to 39 pack-years | 1.20896  | 0.144685     |              |              |
| Other Pharynx cancer | 364113 | 40 to 49 pack-years | 1.366092 | 0.175708     |              |              |
| Other Pharynx cancer | 364113 | 60 to 90 pack-years | 1.408545 | 0.243251     |              |              |
| Other Pharynx cancer | 439809 | 1 to 19 pack-years | 1.269761 | 0.33968      |              |              |
| Other Pharynx cancer | 439809 | 20 to 39 pack-years | 1.439835 | 0.302272     |              |              |
| Other Pharynx cancer | 439809 | 40 to 60 pack-years | 1.583094 | 0.298715     |              |              |
| Other Pharynx cancer | 439813 | 0.05 to 40 pack-years | 0.707543 | 0.489473     |              |              |
| Other Pharynx cancer | 439813 | 40 to 60 pack-years | 1.934849 | 0.526249     |              |              |
| Other Pharynx cancer | 502194 | 1 to 10 pack-years | 0.019803 | 0.832126     |              |              |
| Other Pharynx cancer | 502194 | 10 to 19 pack-years | 0.314811 | 0.350858     |              |              |
| Pancreatic cancer   | 164536 | 0 to 19 pack-years | 0.832909 | 0.50244      |              |              |
| Pancreatic cancer   | 164536 | 0 to 19 pack-years | 0.97456  | 0.470735     |              |              |
| Pancreatic cancer   | 164536 | 40 to 60 pack-years | 1.398717 | 0.456664     |              |              |
| Pancreatic cancer   | 164536 | 20 to 30 pack-years | 0.524729 | 0.251447     |              |              |
| Pancreatic cancer   | 164536 | 20 to 39 pack-years | 0.425268 | 0.590236     |              |              |
| Pancreatic cancer   | 164547 | 0 to 29 pack-years | 0.405465 | 0.323129     |              |              |
| Pancreatic cancer   | 343580 | 50.05 to 75 pack-years | 0.587787 | 0.390683     |              |              |
| Pancreatic cancer   | 343580 | 75.05 to 112.5 pack-years | 0.641854 | 0.386823     |              |              |
| Pancreatic cancer   | 343580 | 0.05 to 25 pack-years | 0.182322 | 0.420576     |              |              |
| Pancreatic cancer   | 343580 | 25.05 to 50 pack-years | 0.530628 | 0.34646      |              |              |
| Pancreatic cancer   | 346137 | 0 to 19 pack-years | 0.139762 | 0.301686     |              |              |
| Pancreatic cancer   | 346137 | 0 to 19 pack-years | 0.357674 | 0.695733     |              |              |
| Pancreatic cancer   | 346137 | 0 to 19 pack-years | 0.444866 | 1.439037     |              |              |
| Pancreatic cancer   | 346137 | 20 to 39 pack-years | 0.875469 | 0.687713     |              |              |
| Pancreatic cancer   | 346826 | 11 to 25 pack-years | 0.993252 | 0.349584     |              |              |
| Pancreatic cancer   | 346826 | 1 to 10 pack-years | 0.262364 | 1.000785     |              |              |
| Pancreatic cancer   | 346826 | 51 to 76.5 pack-years | 0.741937 | 0.315841     |              |              |
| Pancreatic cancer   | 346826 | 26 to 50 pack-years | 1.029619 | 0.23688      |              |              |
| Pancreatic cancer   | 346828 | 20 to 30 pack-years | 0.652525 | 0.289647     |              |              |
| Pancreatic cancer   | 346828 | 0 to 19 pack-years | 0.131028 | 0.429646     |              |              |
| Pancreatic cancer   | 346832 | 1 to 8.5 pack-years | -1.60944 | 6.505102     |              |              |
| pancreatic_cancer | pack-years | pack-years | pack-years | pack-years | pack-years |
|-------------------|------------|------------|------------|------------|------------|
| 346832            | 0          | 0          | 1 to 14    | 0.09531    | 0.672542   |
| 346832            | 0          | 0          | 15 to 22.5 | 0.832909   | 0.343833   |
| 346832            | 0          | 0          | 9.5 to 14.25| 1.029619   | 0.446429   |
| 346870            | 1          | 0          | 0 to 14    | -0.22314   | 0.28699    |
| 346870            | 0          | 0          | 0 to 9     | 0          | 0.382653   |
| 346870            | 0          | 0          | 15 to 34   | 0.405465   | 0.204082   |
| 346870            | 0          | 0          | 10 to 15   | 0.693147   | 0.357143   |
| 346870            | 0          | 0          | 35 to 52.5 | 0.875469   | 0.212585   |
| 346870            | 0          | 0          | 60 to 90   | 0.530628   | 0.495198   |
| 346876            | 0          | 0          | 0 to 19    | 0.693147   | 0.447704   |
| 346876            | 0          | 0          | 40 to 59   | 0.336472   | 0.340743   |
| 346876            | 0          | 0          | 20 to 39   | 0.530628   | 0.322629   |
| 347176            | 0          | 0          | 0 to 19    | 0.262364   | 0.156986   |
| 347176            | 0          | 0          | 20 to 44   | 0.641854   | 0.161117   |
| 347176            | 0          | 0          | 45 to 67.5 | 0.788457   | 0.173933   |
| 359135            | 0          | 0          | 20 to 39   | 0.615186   | 0.390237   |
| 359135            | 0          | 0          | 0 to 19    | 0.131028   | 0.304332   |
| 359135            | 0          | 0          | 20 to 39   | 0.398776   | 0.186618   |
| 359135            | 0          | 0          | 40 to 60   | 0.582216   | 0.171018   |
| 359135            | 0          | 0          | 0 to 19    | 0.783902   | 0.26908    |
| 359138            | 0          | 0          | 15 to 24   | 0.553885   | 0.250704   |
| 359139            | 0          | 0          | 25 to 49   | 0.891998   | 0.270785   |
| 359139            | 0          | 0          | 50 to 75   | 0.955511   | 0.275706   |
| 359139            | 0          | 0          | 0 to 24    | 0.553885   | 0.324009   |
| 359140            | 0          | 0          | 10 to 19   | 0.300105   | 0.472411   |
| 502128            | 0          | 0          | 1 to 49.5  | 0.86289    | 0.435114   |
| 502128            | 1          | 0          | 49.51 to 74.25 | -0.12783 | 0.534552 |
| 502130            | 0          | 0          | 0 to 10    | 0.329304   | 0.343569   |
| 502130            | 0          | 0          | 10 to 19   | 0.405465   | 0.250904   |
| 502130            | 0          | 0          | 20 to 29   | 0.444686   | 0.257568   |
| 502130            | 0          | 0          | 30 to 45   | 0.65752    | 0.205769   |
| 502188            | 0          | 0          | 14 to 32   | 0.451076   | 0.108079   |
| 502188            | 1          | 0          | 1 to 14    | -0.10536   | 0.11498    |
| 502188            | 0          | 0          | 32 to 48   | 0.405465   | 0.106925   |
| 502220            | 0          | 0          | 0 to 20    | 0.357674   | 0.095451   |
| 502220            | 0          | 0          | 20 to 30   | 0.565314   | 0.095148   |
| 502474            | 0          | 0          | 41 to 61.5 | 0.837248   | 0.457081   |
| 502474            | 0          | 0          | 21 to 40   | 0.955511   | 0.200474   |
| 502474            | 0          | 0          | 21 to 40   | 0.887891   | 0.245708   |
| 502474            | 0          | 0          | 41 to 61.5 | 0.904218   | 0.451178   |
| 502474            | 0          | 0          | 1 to 20    | 0.48858    | 0.173503   |
| 502474            | 0          | 0          | 1 to 20    | 0.512824   | 0.15406    |
| 502474            | 0          | 0          | 21 to 40   | 0.858662   | 0.227938   |
| Condition           | ID       | Sex | Age Group | Years Group | Coefficient | Standard Error |
|---------------------|----------|-----|-----------|-------------|-------------|---------------|
| Pancreatic Cancer   | 502474   | 0   | 0         | 41 to 61.5  | 1.043804    | 0.457081      |
| Pancreatic Cancer   | 502474   | 0   | 0         | 1 to 20     | 0.620576    | 0.156482      |
| Pancreatic Cancer   | 502474   | 0   | 0         | 21 to 40    | 0.932164    | 0.213736      |
| Pancreatic Cancer   | 502474   | 0   | 0         | 41 to 61.5  | 1.095273    | 0.452548      |
| Pancreatic Cancer   | 502474   | 0   | 0         | 1 to 20     | 0.512824    | 0.163849      |
| Pancreatic Cancer   | 502474   | 0   | 0         | 21 to 40    | 0.947789    | 0.193557      |
| Pancreatic Cancer   | 502474   | 0   | 0         | 41 to 61.5  | 0.828552    | 0.45481       |
| Pancreatic Cancer   | 502474   | 0   | 0         | 1 to 20     | 0.620576    | 0.144833      |
| Pancreatic Cancer   | 502474   | 0   | 0         | 21 to 40    | 0.908259    | 0.221146      |
| Pancreatic Cancer   | 502474   | 0   | 0         | 41 to 61.5  | 0.587787    | 0.116758      |
| Pancreatic Cancer   | 502474   | 0   | 0         | 1 to 20     | 0.350657    | 0.185935      |
| Pancreatic Cancer   | 502474   | 0   | 0         | 21 to 40    | 0.744686    | 0.103435      |
| Pancreatic Cancer   | 502474   | 0   | 0         | 41 to 61.5  | 0.587787    | 0.109194      |
| Pancreatic Cancer   | 502474   | 0   | 0         | 1 to 20     | 0.500775    | 0.112234      |
| Pancreatic Cancer   | 502474   | 0   | 0         | 21 to 40    | 0.463734    | 0.103435      |
| Pancreatic Cancer   | 502474   | 0   | 0         | 41 to 61.5  | 0.500775    | 0.103435      |
| Pancreatic Cancer   | 502474   | 0   | 0         | 1 to 20     | 0.329304    | 0.139298      |
| Pancreatic Cancer   | 502474   | 0   | 0         | 21 to 40    | 0.444686    | 0.104104      |
| Pancreatic Cancer   | 502474   | 0   | 0         | 41 to 61.5  | 0.587787    | 0.109194      |
| Pancreatic Cancer   | 502474   | 0   | 0         | 1 to 20     | 0.300105    | 0.112234      |
| Pancreatic Cancer   | 502474   | 0   | 0         | 21 to 40    | 0.451076    | 0.112234      |
| Parkinson           | 173863   | 0   | 0         | 15 to 24    | -1.20397    | 1.862245      |
| Parkinson           | 173863   | 0   | 0         | 25 to 37.5  | -0.10536    | 0.620748      |
| Parkinson           | 173863   | 0   | 0         | 1 to 14     | 0.09531     | 0.507885      |
| Parkinson           | 173863   | 0   | 0         | 19.2 to 60  | -0.94161    | 0.196232      |
| Parkinson           | 173863   | 0   | 0         | 7 to 12.7   | -0.99425    | 0.199945      |
| Parkinson           | 173863   | 0   | 0         | 19.2 to 60  | -0.94161    | 0.196232      |
| Parkinson           | 173863   | 0   | 0         | 0 to 7      | -0.63488    | 0.182903      |
| Parkinson           | 359157   | 0   | 1         | 1 to 10     | -0.24846    | 0.30416       |
| Parkinson           | 359157   | 0   | 0         | 31 to 46.5  | -0.26136    | 0.72555       |
| parkinson | 359157 | 0 | 0 cigarettes per day | 11 to 20 cigarettes per day | -0.3285 | 0.276361 |
| parkinson | 359157 | 0 | 0 cigarettes per day | 21 to 30 cigarettes per day | -0.40048 | 0.464514 |
| parkinson | 359157 | 0 | 0 cigarettes per day | 31 to 46.5 cigarettes per day | -0.51919 | 0.287258 |
| parkinson | 359157 | 1 | 0 cigarettes per day | 21 to 31.5 cigarettes per day | 0.815365 | 0.279904 |
| parkinson | 359158 | 1 | 0 cigarettes per day | 11 to 20 cigarettes per day | -0.3285 | 0.276361 |
| parkinson | 359158 | 0 | 0 cigarettes per day | 21 to 31.5 cigarettes per day | -0.51919 | 0.287258 |
| parkinson | 359158 | 1 | 0 cigarettes per day | 11 to 20 cigarettes per day | -0.79851 | 0.328798 |
| parkinson | 359158 | 0 | 0 cigarettes per day | 31 to 46.5 cigarettes per day | -1.20397 | 0.244473 |
| parkinson | 359158 | 0 | 0 cigarettes per day | 1 to 10 cigarettes per day | -0.79851 | 0.328798 |
| parkinson | 359159 | 0 | 0 cigarettes per day | 11 to 20 cigarettes per day | -0.35667 | 0.342593 |
| parkinson | 359159 | 0 | 0 cigarettes per day | 1 to 10 cigarettes per day | -0.04082 | 0.236501 |
| parkinson | 359159 | 0 | 0 cigarettes per day | 20 to 31.5 cigarettes per day | 0.631272 | 0.419561 |
| parkinson | 359159 | 0 | 0 cigarettes per day | 11 to 20 cigarettes per day | -0.52763 | 0.229159 |
| parkinson | 359159 | 0 | 0 cigarettes per day | 1 to 10 cigarettes per day | -0.09431 | 0.192527 |
| parkinson | 359159 | 0 | 0 cigarettes per day | 1 to 10 cigarettes per day | -0.23572 | 0.167712 |
| parkinson | 359159 | 0 | 0 cigarettes per day | 12 to 18 cigarettes per day | -0.63488 | 0.232172 |
| parkinson | 359159 | 0 | 0 cigarettes per day | 31 to 46.5 cigarettes per day | -1.04982 | 0.880466 |
| parkinson | 359159 | 0 | 0 cigarettes per day | 1 to 10 cigarettes per day | -0.63488 | 0.232172 |
| parkinson | 359159 | 0 | 0 cigarettes per day | 1 to 10 cigarettes per day | -0.57982 | 0.151292 |
| Disease                  | ID          | Outcome | Cigarettes per day | Cigarettes per day | coefficient 1 | coefficient 2 |
|-------------------------|-------------|---------|--------------------|--------------------|---------------|---------------|
| Parkinson               | 502009      | 0       | 0 cigarettes per day | 1 to 12 cigarettes per day | -0.18633      | 0.195885      |
| Parkinson               | 502009      | 0       | 0 cigarettes per day | 1 to 12 cigarettes per day | -0.99425      | 0.4599        |
| Parkinson               | 502009      | 0       | 0 cigarettes per day | 12 to 18 cigarettes per day | -0.52763      | 0.381661      |
| Peptic ulcer            | 262563      | 0       | 0 cigarettes per day | 0 to 19 cigarettes per day | 0.470004      | 0.255102      |
| Peptic ulcer            | 328259      | 0       | 0 cigarettes per day | 1 to 7 cigarettes per day | 0.587787      | 0.365646      |
| Peptic ulcer            | 328259      | 0       | 0 cigarettes per day | 8 to 15 cigarettes per day | 0.683097      | 0.407133      |
| Peptic ulcer            | 328259      | 1       | 0 cigarettes per day | 16 to 25 cigarettes per day | 0.81978       | 1.853142      |
| Peptic ulcer            | 328259      | 0       | 0 cigarettes per day | 1 to 7 cigarettes per day | 0.871293      | 0.376783      |
| Peptic ulcer            | 328259      | 0       | 0 cigarettes per day | 16 to 25 cigarettes per day | 1.163151      | 0.460778      |
| Peptic ulcer            | 328259      | 0       | 0 cigarettes per day | 26 to 39 cigarettes per day | 1.291984      | 1.033724      |
| Peptic ulcer            | 338384      | 0       | 0 cigarettes per day | 15 to 20 cigarettes per day | 1.609438      | 0.642857      |
| Peptic ulcer            | 338384      | 0       | 0 cigarettes per day | 21 to 31.5 cigarettes per day | 0.916291      | 0.612245      |
| Peptic ulcer            | 338384      | 0       | 0 cigarettes per day | 15 to 20 cigarettes per day | 1.064711      | 0.492611      |
| Peptic ulcer            | 338384      | 0       | 0 cigarettes per day | 1 to 9 cigarettes per day | 0.405465      | 0.493197      |
| Peptic ulcer            | 338384      | 0       | 0 cigarettes per day | 10 to 14 cigarettes per day | 0.262364      | 0.510204      |
| Peptic ulcer            | 338384      | 0       | 0 cigarettes per day | 15 to 20 cigarettes per day | 0.693147      | 0.395408      |
| Peptic ulcer            | 349377      | 0       | 0 cigarettes per day | 0 to 15 cigarettes per day | 1.348073      | 0.277631      |
| Peptic ulcer            | 349377      | 1       | 0 cigarettes per day | 16 to 24 cigarettes per day | 1.467874      | 0.298599      |
| Peptic ulcer            | 349377      | 0       | 0 cigarettes per day | 1 to 14 cigarettes per day | 0.029559      | 0.616703      |
| Peptic ulcer            | 349377      | 0       | 0 cigarettes per day | 14 to 24 cigarettes per day | 0.215111      | 0.357966      |
| Peptic ulcer            | 349377      | 0       | 0 cigarettes per day | 25 to 37.5 cigarettes per day | 0.24686       | 0.49426       |
| Peptic ulcer            | 349377      | 0       | 0 cigarettes per day | 1 to 9 cigarettes per day | 0.559616      | 0.370262      |
| Peptic ulcer            | 349542      | 0       | 0 cigarettes per day | 10 to 20 cigarettes per day | 0.703098      | 0.239947      |
| Peptic ulcer            | 349542      | 0       | 0 cigarettes per day | 21 to 31.5 cigarettes per day | 0.832909      | 0.353815      |
| Peptic ulcer            | 359166      | 0       | 0 cigarettes per day | 0 to 14 cigarettes per day | 0.254642      | 0.395507      |
| Peptic ulcer            | 359166      | 0       | 0 cigarettes per day | 15 to 22.5 cigarettes per day | 0.732368      | 0.381427      |
| Peptic ulcer            | 359221      | 0       | 0 cigarettes per day | 0 to 14 cigarettes per day | 2.189416      | 0.310522      |
| Peptic ulcer            | 359221      | 1       | 0 cigarettes per day | 15 to 22.5 cigarettes per day | 2.830268      | 0.239299      |
| Peptic ulcer            | 359221      | 0       | 0 cigarettes per day | 1 to 20 cigarettes per day | 1.205971      | 0.306275      |
| Peptic ulcer            | 359221      | 0       | 0 cigarettes per day | 19 to 28.5 cigarettes per day | 1.534714      | 0.294687      |
| Peptic ulcer            | 359223      | 0       | 0 cigarettes per day | 0 to 24 cigarettes per day | 1.054312      | 0.329766      |
| Peptic ulcer            | 359223      | 0       | 0 cigarettes per day | 25 to 37.5 cigarettes per day | 2.53449       | 0.485928      |
| Peptic ulcer            | 369290      | 0       | 0 cigarettes per day | 1 to 20 cigarettes per day | 2.116256      | 1.05533       |
| Peptic ulcer            | 369290      | 0       | 0 cigarettes per day | 21 to 40 cigarettes per day | 2.351375      | 1.148031      |
| Peptic ulcer            | 369290      | 0       | 0 cigarettes per day | 41 to 61.5 cigarettes per day | 2.70805       | 1.605736      |
| Peptic ulcer            | 462792      | 0       | 0 cigarettes per day | 1 to 14 cigarettes per day | 1.249902      | 0.11089       |
| Peptic ulcer            | 462792      | 0       | 0 cigarettes per day | 15 to 24 cigarettes per day | 1.773256      | 0.089642      |
| Peptic ulcer            | 462792      | 0       | 0 cigarettes per day | 25 to 37.5 cigarettes per day | 1.98238       | 0.102145      |
| Peptic ulcer            | 501896      | 0       | 0 cigarettes per day | 1 to 19 cigarettes per day | 0.982078      | 0.157216      |
| Condition                        | Total Cases | Cigarettes per day | Cigarettes per day | p-value 1  | p-value 2 |
|---------------------------------|-------------|--------------------|--------------------|-----------|-----------|
| Peripheral Artery Disease       | 501896      | 0 cigarettes per day | 20 to 30 cigarettes per day | 1.311032 | 0.1312 |
| Prostate Cancer                 | 165518      | 0 cigarettes per day | 0 to 30 cigarettes per day | 0.262364 | 0.353218 |
| Prostate Cancer                 | 165518      | 0 cigarettes per day | 31 to 55 cigarettes per day | 0.262364 | 0.392465 |
| Prostate Cancer                 | 165518      | 0 cigarettes per day | 56 to 84 cigarettes per day | 0.693147 | 0.344388 |
| Prostate Cancer                 | 165571      | 0 cigarettes per day | 1 to 20 cigarettes per day | 0.262364 | 0.392971 |
| Prostate Cancer                 | 165618      | 0 cigarettes per day | 20 to 30 cigarettes per day | 0.470004 | 0.438176 |
| Prostate Cancer                 | 165618      | 0 cigarettes per day | 0 to 10 cigarettes per day | -0.69315  | 0.33145  |
| Prostate Cancer                 | 165618      | 0 cigarettes per day | 11 to 16.5 cigarettes per day | -0.51083  | 0.353647  |
| Prostate Cancer                 | 328210      | 0 cigarettes per day | 0 to 20 cigarettes per day | 0.322083 | 0.201635 |
| Prostate Cancer                 | 328210      | 0 cigarettes per day | 20 to 30 cigarettes per day | -0.38566  | 0.332772 |
| Prostate Cancer                 | 328339      | 0 cigarettes per day | 0 to 19 cigarettes per day | -0.34249  | 0.643145 |
| Prostate Cancer                 | 328339      | 0 cigarettes per day | 60 to 90 cigarettes per day | 0.277632 | 0.479282 |
| Prostate Cancer                 | 328339      | 0 cigarettes per day | 40 to 59 cigarettes per day | 0.34359  | 0.28405 |
| Prostate Cancer                 | 343354      | 0 cigarettes per day | 39 to 58.5 cigarettes per day | 0.41211  | 0.117228 |
| Prostate Cancer                 | 343354      | 0 cigarettes per day | 10 to 20 cigarettes per day | 0.139762 | 0.048527 |
| Prostate Cancer                 | 343354      | 0 cigarettes per day | 21 to 39 cigarettes per day | 0.207014 | 0.06018 |
| Prostate Cancer                 | 343354      | 0 cigarettes per day | 15 to 22.5 cigarettes per day | 0.165514 | 0.179878 |
| Prostate Cancer                 | 343354      | 0 cigarettes per day | 1 to 14 cigarettes per day | 0.207014 | 0.195837 |
| Prostate Cancer                 | 343354      | 0 cigarettes per day | 1 to 9 cigarettes per day | 0.10436  | 0.068744 |
| Prostate Cancer                 | 347383      | 0 cigarettes per day | 1 to 19 cigarettes per day | 0.470004 | 0.361496 |
| Prostate Cancer                 | 347383      | 0 cigarettes per day | 20 to 29 cigarettes per day | 0.530628 | 0.376507 |
| Prostate Cancer                 | 347383      | 0 cigarettes per day | 30 to 45 cigarettes per day | 0.336472 | 0.611708 |
| Prostate Cancer                 | 347385      | 0 cigarettes per day | 0 to 20 cigarettes per day | 0.285179 | 0.164576 |
| Prostate Cancer                 | 347385      | 0 cigarettes per day | 20 to 30 cigarettes per day | 0.641854 | 0.242112 |
| Prostate Cancer                 | 347435      | 0 cigarettes per day | 20 to 30 cigarettes per day | 0.223144 | 0.11507 |
| Prostate Cancer                 | 347435      | 0 cigarettes per day | 20 to 20 cigarettes per day | 0.322083 | 0.112547 |
| Prostate Cancer                 | 347435      | 0 cigarettes per day | 10 to 20 cigarettes per day | 0.457425 | 0.127812 |
| Prostate Cancer                 | 347435      | 0 cigarettes per day | 0 to 10 cigarettes per day | 0.285179 | 0.164576 |
| Prostate Cancer                 | 347448      | 0 cigarettes per day | 20 to 39 cigarettes per day | -0.04082 | 0.103635 |
| Prostate Cancer                 | 347448      | 0 cigarettes per day | 40 to 60 cigarettes per day | 0.131028 | 0.105174 |
| Prostate Cancer                 | 347448      | 0 cigarettes per day | 0.25 to 19 cigarettes per day | 0.182322 | 0.082908 |
| Prostate Cancer                 | 347451      | 0 cigarettes per day | 10 to 19 cigarettes per day | -0.16252  | 0.200322 |
| Prostate Cancer                 | 347451      | 0 cigarettes per day | 20 to 30 cigarettes per day | 0.457425 | 0.263432 |
| Prostate Cancer                 | 347451      | 0 cigarettes per day | 10 to 19 cigarettes per day | 0.10436  | 0.236647 |
| Prostate Cancer                 | 347451      | 0 cigarettes per day | 20 to 30 cigarettes per day | -0.05129 | 0.220229 |
| Prostate Cancer                 | 347451      | 0 cigarettes per day | 0 to 10 cigarettes per day | 0.10436  | 0.257715 |
| Prostate Cancer                 | 347451      | 0 cigarettes per day | 0 to 10 cigarettes per day | 0.113329 | 0.473908 |
| Prostate Cancer                 | 347451      | 0 cigarettes per day | 10 to 19 cigarettes per day | -0.05129 | 0.17872 |
| Prostate Cancer                 | 347451      | 0 cigarettes per day | 0 to 10 cigarettes per day | -0.65393  | 0.483321 |
| Prostate Cancer                 | 347451      | 0 cigarettes per day | 10 to 19 cigarettes per day | 0.029559 | 0.278837 |
| Prostate Cancer                 | 347451      | 0 cigarettes per day | 20 to 30 cigarettes per day | 0.00995  | 0.224964 |
| Prostate Cancer                 | 347451      | 0 cigarettes per day | 20 to 30 cigarettes per day | 0.322083 | 0.311185 |
| Condition                  | ID        | Cigarettes per day | Cigarettes per day | Correlation 1 | Significance 1 |
|---------------------------|-----------|--------------------|--------------------|---------------|---------------|
| Prostate Cancer           | 347451    | 0                  | 0 to 10 cigarettes per day | 0.113329      | 0.334233      |
| Prostate Cancer           | 347454    | 1                  | 0 cigarettes per day   | -0.09431      | 0.036708      |
| Prostate Cancer           | 347454    | 1                  | 20 to 30 cigarettes per day | -0.28768      | 0.047126      |
| Prostate Cancer           | 347454    | 1                  | 0 to 20 cigarettes per day | 0.582216      | 0.174807      |
| Prostate Cancer           | 347454    | 0                  | 20 to 30 cigarettes per day | 0.431782      | 0.214337      |
| Prostate Cancer           | 347454    | 0                  | 15 to 22.5 cigarettes per day | 0.722706      | 0.349217      |
| Prostate Cancer           | 347454    | 0                  | 15 to 22.5 cigarettes per day | 0.593327      | 0.290337      |
| Prostate Cancer           | 347454    | 0                  | 10 to 14 cigarettes per day | 0.565314      | 0.36381       |
| Prostate Cancer           | 347454    | 0                  | 1 to 9 cigarettes per day | 0.131028      | 0.429646      |
| Prostate Cancer           | 347454    | 0                  | 1 to 9 cigarettes per day | 0.223144      | 0.336735      |
| Prostate Cancer           | 347464    | 0                  | 1 to 20 cigarettes per day | 0.530628      | 0.397486      |
| Prostate Cancer           | 347464    | 0                  | 20 to 30 cigarettes per day | 0.641854      | 0.440618      |
| Prostate Cancer           | 356281    | 0                  | 0 to 10 cigarettes per day | -0.24846      | 0.538606      |
| Prostate Cancer           | 356281    | 0                  | 10 to 20 cigarettes per day | -0.24846      | 0.538606      |
| Prostate Cancer           | 356281    | 0                  | 10 to 20 cigarettes per day | -0.35667      | 0.455611      |
| Prostate Cancer           | 356281    | 0                  | 20 to 30 cigarettes per day | 0.04879       | 0.470874      |
| Prostate Cancer           | 358689    | 1                  | 0 cigarettes per day   | -0.44629      | 0.203284      |
| Prostate Cancer           | 359183    | 1                  | 0 cigarettes per day   | -0.3285       | 0.070333      |
| Prostate Cancer           | 359183    | 0                  | 0 to 10 cigarettes per day | -0.15082      | 0.056261      |
| Prostate Cancer           | 359183    | 1                  | 10 to 19 cigarettes per day | -0.15082      | 0.05359       |
| Prostate Cancer           | 359185    | 0                  | 1 to 14 cigarettes per day | -0.03046      | 0.055159      |
| Prostate Cancer           | 359185    | 1                  | 15 to 24 cigarettes per day | -0.10536      | 0.059463      |
| Prostate Cancer           | 359185    | 1                  | 25 to 37.5 cigarettes per day | -0.13926      | 0.09273       |
| Prostate Cancer           | 359185    | 0                  | 1 to 14 cigarettes per day | 0.173953      | 0.190452      |
| Prostate Cancer           | 359185    | 0                  | 15 to 24 cigarettes per day | 0.270027      | 0.191955      |
| Prostate Cancer           | 359185    | 0                  | 25 to 37.5 cigarettes per day | 0.593327      | 0.247613      |
| Prostate Cancer           | 359211    | 0                  | 13 to 19.5 cigarettes per day | -0.12783      | 0.168593      |
| Prostate Cancer           | 359211    | 0                  | 0 to 13 cigarettes per day | 0.067659      | 0.188612      |
| Prostate Cancer           | 359212    | 0                  | 26 to 39 cigarettes per day | 0.215111      | 0.154296      |
| Prostate Cancer           | 359212    | 0                  | 18 to 25 cigarettes per day | 0.215111      | 0.154296      |
| Prostate Cancer           | 359212    | 0                  | 1 to 10 cigarettes per day | -0.05129      | 0.161117      |
| Prostate Cancer           | 359212    | 0                  | 11 to 17 cigarettes per day | -0.17435      | 0.191327      |
| Prostate Cancer           | 359215    | 0                  | 0 to 19 cigarettes per day | -0.40048      | 0.159915      |
| Prostate Cancer           | 359215    | 1                  | 20 to 39 cigarettes per day | -0.17435      | 0.097182      |
| Prostate Cancer           | 359218    | 0                  | 1 to 30 cigarettes per day | 0.336472      | 0.400875      |
| Prostate Cancer           | 359218    | 0                  | 31 to 46.5 cigarettes per day | 0.182322      | 0.255102      |
| Prostate Cancer           | 428283    | 0                  | 60 to 90 cigarettes per day | 0.277632      | 0.479283      |
| Prostate Cancer           | 428283    | 0                  | 40 to 59 cigarettes per day | 0.34359       | 0.28405       |
| Prostate Cancer           | 428283    | 0                  | 0 to 19 cigarettes per day | -0.34249      | 0.643145      |
| Prostate Cancer           | 428283    | 0                  | 20 to 39 cigarettes per day | 0.457425      | 0.269633      |
| Rheumatoid Arthritis      | 261500    | 0                  | 1 to 14 cigarettes per day | 0.139762      | 0.173026      |
| Rheumatoid Arthritis      | 261500    | 0                  | 15 to 24 cigarettes per day | 0.392042      | 0.143064      |
| Rheumatoid Arthritis      | 261500    | 0                  | 25 to 37.5 cigarettes per day | 0.587787      | 0.15873       |
| stomach_cancer | 340528 | 1 0 pack-years | 33 to 49.5 pack-years | 1.131402 | 0.485517 |
|----------------|--------|----------------|-----------------------|----------|----------|
| stomach_cancer | 340528 | 0 0 pack-years | 33 to 49.5 pack-years | 0.405465 | 0.272109 |
| stomach_cancer | 340528 | 0 0 pack-years | 19 to 32 pack-years   | 0.405465 | 0.272109 |
| stomach_cancer | 340528 | 0 0 pack-years | 1 to 18 pack-years    | 0.09531  | 0.556586 |
| stomach_cancer | 340528 | 0 0 pack-years | 1 to 18 pack-years    | -0.10536 | 0.283447 |
| stomach_cancer | 340528 | 0 0 pack-years | 0 to 40 pack-years    | -0.10536 | 0.311791 |
| stomach_cancer | 34054 | 0 0 pack-years | 0 to 40 pack-years    | 0.405465 | 0.255102 |
| stomach_cancer | 340578 | 0 0 pack-years | 30 to 45 pack-years   | 0.182322 | 0.191327 |
| stomach_cancer | 340578 | 0 0 pack-years | 20 to 29 pack-years   | 0.09531  | 0.20872  |
| stomach_cancer | 340578 | 0 0 pack-years | 10 to 19 pack-years   | 0        | 0.178571 |
| stomach_cancer | 340578 | 0 0 pack-years | 0 to 9 pack-years     | 0        | 0.204082 |
| stomach_cancer | 340582 | 1 0 pack-years | 40 to 59 pack-years   | 1.047319 | 0.145005 |
| stomach_cancer | 340582 | 0 0 pack-years | 60 to 90 pack-years   | 1.043804 | 0.244323 |
| stomach_cancer | 340582 | 0 0 pack-years | 60 to 90 pack-years   | 1.004302 | 0.241085 |
| stomach_cancer | 340582 | 0 0 pack-years | 40 to 59 pack-years   | 0.989541 | 0.14794  |
| stomach_cancer | 340582 | 0 0 pack-years | 20 to 39 pack-years   | 0.788457 | 0.169295 |
| stomach_cancer | 340582 | 0 0 pack-years | 60 to 90 pack-years   | 0.768086 | 0.158545 |
| stomach_cancer | 340582 | 0 0 pack-years | 60 to 90 pack-years   | 0.732368 | 0.161892 |
| stomach_cancer | 340582 | 1 0 pack-years | 20 to 39 pack-years   | 0.678034 | 0.170931 |
| stomach_cancer | 340582 | 0 0 pack-years | 0 to 19 pack-years    | 0.536493 | 0.241676 |
| stomach_cancer | 340582 | 0 0 pack-years | 0 to 19 pack-years    | 0.444686 | 0.21422  |
| stomach_cancer | 340582 | 0 0 pack-years | 0 to 19 pack-years    | 0.350657 | 0.24612  |
| stomach_cancer | 340582 | 0 0 pack-years | 20 to 39 pack-years   | 0.231112 | 0.216634 |
| stomach_cancer | 340582 | 0 0 pack-years | 20 to 39 pack-years   | 0.215111 | 0.216014 |
| stomach_cancer | 340582 | 0 0 pack-years | 40 to 59 pack-years   | 0.182322 | 0.272109 |
| stomach_cancer | 340582 | 0 0 pack-years | 40 to 59 pack-years   | 0.14842  | 0.268297 |
| stomach_cancer | 340582 | 0 0 pack-years | 0 to 19 pack-years    | 0.476234 | 0.213905 |
| stomach_cancer | 343580 | 0 0 pack-years | 75.05 to 112.5 pack-years | 0.641854 | 0.304572 |
| stomach_cancer | 343580 | 0 0 pack-years | 50.05 to 75 pack-years | 0.530628 | 0.27161  |
| stomach_cancer | 343580 | 0 0 pack-years | 0.05 to 25 pack-years | 0.470004 | 0.289536 |
| stomach_cancer | 343580 | 0 0 pack-years | 25.05 to 50 pack-years | 0.470004 | 0.253381 |
| stomach_cancer | 347810 | 0 0 pack-years | 1 to 19.95 pack-years | -0.75502 | 0.705601 |
| stomach_cancer | 347810 | 0 0 pack-years | 1 to 19.95 pack-years | -0.73397 | 0.71216  |
| stomach_cancer | 347810 | 0 0 pack-years | 40 to 60 pack-years   | 0.270027 | 0.140209 |
| stomach_cancer | 347810 | 0 0 pack-years | 40 to 60 pack-years   | 0.285179 | 0.140018 |
| stomach_cancer | 347810 | 0 0 pack-years | 20 to 39.95 pack-years | 0.300105 | 0.139834 |
| stomach_cancer | 347810 | 0 0 pack-years | 1 to 19.95 pack-years | 0.307485 | 0.215711 |
| stomach_cancer | 347810 | 0 0 pack-years | 20 to 39.95 pack-years | 0.307485 | 0.140681 |
| stomach_cancer | 347810 | 0 0 pack-years | 1 to 19.95 pack-years | 0.322083 | 0.216282 |
| stomach_cancer | 347810 | 0 0 pack-years | 20 to 39.95 pack-years | 0.582216 | 0.464599 |
| Disease          | Study Code | Exposure | Type | Exposure Unit | RR     | SE   |
|------------------|------------|----------|------|---------------|--------|------|
| stomach_cancer   | 347810     | 0        | 0    | pack-years    | 20 to 39.95 pack-years | 0.615186 | 0.460563 |
|                  | 502130     | 0        | 0    | pack-years    | 20 to 29 pack-years | 0.329304 | 0.316158 |
|                  | 502130     | 0        | 0    | pack-years    | 0 to 10 pack-years | -0.17435 | 0.510136 |
|                  | 502130     | 0        | 0    | pack-years    | 10 to 19 pack-years | 0.157004 | 0.33183  |
|                  | 502130     | 0        | 0    | pack-years    | 30 to 45 pack-years | 0.732368 | 0.232197 |
|                  | 502141     | 0        | 0    | pack-years    | 1 to 30 pack-years | 0.099845 | 0.098402 |
|                  | 502141     | 0        | 0    | pack-years    | 31 to 45 pack-years | 0.167377 | 0.097462 |
| stroke           | 122237     | 0        | 0    | cigarettes per day | 21 to 31.5 cigarettes per day | 0.182322 | 1.766582 |
|                  | 122237     | 0        | 0    | cigarettes per day | 10 to 19 cigarettes per day | 0.405465 | 1.413265 |
|                  | 122237     | 0        | 0    | cigarettes per day | 1 to 9 cigarettes per day | 0.641854 | 1.115736 |
|                  | 122237     | 0        | 0    | cigarettes per day | 10 to 19 cigarettes per day | 0.641854 | 1.115736 |
|                  | 122237     | 0        | 0    | cigarettes per day | 21 to 31.5 cigarettes per day | 0.875469 | 0.883291 |
|                  | 155207     | 0        | 0    | cigarettes per day | 25 to 37.5 cigarettes per day | 1.000632 | 0.172569 |
|                  | 155207     | 0        | 0    | cigarettes per day | 25 to 37.5 cigarettes per day | 0.871293 | 0.129152 |
|                  | 155207     | 0        | 0    | cigarettes per day | 15 to 24 cigarettes per day | 0.951658 | 0.09357  |
|                  | 155207     | 0        | 0    | cigarettes per day | 1 to 14 cigarettes per day | 0.615186 | 0.100662 |
|                  | 155207     | 0        | 0    | cigarettes per day | 1 to 14 cigarettes per day | 0.277632 | 0.117888 |
|                  | 165539     | 0        | 0    | cigarettes per day | 10 to 15 cigarettes per day | 0.405465 | 0.098639 |
|                  | 165539     | 0        | 0    | cigarettes per day | 10 to 15 cigarettes per day | 0.405465 | 0.098639 |
|                  | 174238     | 0        | 0    | cigarettes per day | 1 to 14 cigarettes per day | 0.314811 | 1.547371 |
|                  | 174238     | 0        | 0    | cigarettes per day | 15 to 24 cigarettes per day | 0.457425 | 1.341708 |
|                  | 174238     | 0        | 0    | cigarettes per day | 25 to 37.5 cigarettes per day | 0.641854 | 1.115736 |
|                  | 193978     | 0        | 0    | cigarettes per day | 10 to 19 cigarettes per day | 1.043804 | 0.397025 |
|                  | 193978     | 0        | 0    | cigarettes per day | 20 to 30 cigarettes per day | 1.302913 | 0.467918 |
|                  | 193978     | 0        | 0    | cigarettes per day | 1 to 9 cigarettes per day | 1.118415 | 0.521042 |
|                  | 193978     | 0        | 0    | cigarettes per day | 10 to 19 cigarettes per day | 1.004302 | 0.239217 |
|                  | 193978     | 0        | 0    | cigarettes per day | 1 to 9 cigarettes per day | 0.858662 | 0.432376 |
|                  | 193978     | 0        | 0    | cigarettes per day | 20 to 30 cigarettes per day | 0.97456 | 0.241625 |
|                  | 193978     | 0        | 0    | cigarettes per day | 10 to 19 cigarettes per day | 0.982078 | 0.312428 |
|                  | 193978     | 0        | 0    | cigarettes per day | 20 to 30 cigarettes per day | 0.756122 | 0.280253 |
|                  | 193978     | 0        | 0    | cigarettes per day | 1 to 9 cigarettes per day | 0.392042 | 1.018685 |
|                  | 298316     | 0        | 0    | cigarettes per day | 0 to 20 cigarettes per day | 1.410987 | 0.3111 |
|                  | 298316     | 1        | 0    | cigarettes per day | 21 to 31.5 cigarettes per day | 2.406945 | 0.457345 |
|                  | 324092     | 0        | 0    | cigarettes per day | 1 to 19 cigarettes per day | 0.530628 | 0.165066 |
|                  | 324092     | 0        | 0    | cigarettes per day | 21 to 31.5 cigarettes per day | 0.788457 | 0.162338 |
|                  | 324092     | 0        | 0    | cigarettes per day | 1 to 19 cigarettes per day | 0.470004 | 0.143495 |
|                  | 328259     | 0        | 0    | cigarettes per day | 26 to 39 cigarettes per day | 0.357674 | 0.390681 |
|                  | 328259     | 0        | 0    | cigarettes per day | 16 to 25 cigarettes per day | -0.52763 | 0.453995 |
|                  | 328259     | 0        | 0    | cigarettes per day | 1 to 7 cigarettes per day | -0.08338 | 0.119232 |
|                  | 328259     | 0        | 0    | cigarettes per day | 1 to 7 cigarettes per day | -0.01005 | 0.108225 |
|                  | 328259     | 1        | 0    | cigarettes per day | 16 to 25 cigarettes per day | 0 | 0.183673 |
| stroke | 328259 | 1  | 0 cigarettes per day | 8 to 15 cigarettes per day | 0.04879 | 0.133625 |
| stroke | 328259 | 0  | 0 cigarettes per day | 8 to 15 cigarettes per day | 0.231112 | 0.141723 |
| stroke | 328460 | 0  | 0 cigarettes per day | 0 to 9 cigarettes per day | 0.765468 | 0.290698 |
| stroke | 328460 | 0  | 0 cigarettes per day | 21 to 31.5 cigarettes per day | -0.04082 | 0.326849 |
| stroke | 328460 | 0  | 0 cigarettes per day | 10 to 19 cigarettes per day | 0.24686 | 0.277025 |
| stroke | 330677 | 0  | 0 cigarettes per day | 1 to 9 cigarettes per day | 0.182322 | 0.065901 |
| stroke | 330677 | 1  | 0 cigarettes per day | 10 to 19 cigarettes per day | 0.19062 | 0.082223 |
| stroke | 330677 | 1  | 0 cigarettes per day | 10 to 19 cigarettes per day | 0.198851 | 0.052275 |
| stroke | 330677 | 1  | 0 cigarettes per day | 21 to 31.5 cigarettes per day | 0.314811 | 0.046551 |
| stroke | 330677 | 1  | 0 cigarettes per day | 21 to 31.5 cigarettes per day | 0.350657 | 0.100604 |
| stroke | 330932 | 0  | 0 cigarettes per day | 1 to 9 cigarettes per day | 0.34359 | 0.40165 |
| stroke | 330932 | 0  | 0 cigarettes per day | 10 to 20 cigarettes per day | 0.157004 | 0.97026 |
| stroke | 330932 | 0  | 0 cigarettes per day | 22 to 33 cigarettes per day | 0.500775 | 0.64162 |
| stroke | 330932 | 0  | 0 cigarettes per day | 10 to 20 cigarettes per day | 1.927164 | 0.979562 |
| stroke | 330932 | 0  | 0 cigarettes per day | 21 to 31.5 cigarettes per day | 0.565314 | 0.243506 |
| stroke | 330932 | 0  | 0 cigarettes per day | 1 to 19 cigarettes per day | 0.41871 | 0.181257 |
| stroke | 331371 | 0  | 0 cigarettes per day | 20 to 30 cigarettes per day | 1.153732 | 0.449044 |
| stroke | 331371 | 0  | 0 cigarettes per day | 20 to 30 cigarettes per day | 0.270027 | 0.477099 |
| stroke | 331371 | 0  | 0 cigarettes per day | 20 to 30 cigarettes per day | 0.24686 | 0.239158 |
| stroke | 331371 | 0  | 0 cigarettes per day | 1 to 19 cigarettes per day | 0.19062 | 0.375274 |
| stroke | 331371 | 0  | 0 cigarettes per day | 20 to 30 cigarettes per day | -0.03046 | 0.194614 |
| stroke | 331371 | 0  | 0 cigarettes per day | 20 to 30 cigarettes per day | -0.59784 | 1.846011 |
| stroke | 331371 | 0  | 0 cigarettes per day | 0 to 9 cigarettes per day | 0.14842 | 0.101161 |
| stroke | 331371 | 0  | 0 cigarettes per day | 0 to 9 cigarettes per day | 0.329304 | 0.067905 |
| stroke | 331371 | 0  | 0 cigarettes per day | 1 to 20 cigarettes per day | 0.350657 | 0.370078 |
| stroke | 331371 | 0  | 0 cigarettes per day | 1 to 20 cigarettes per day | 0.470004 | 0.299745 |
| stroke | 331371 | 0  | 0 cigarettes per day | 22 to 33 cigarettes per day | 0.774727 | 0.373763 |
| stroke | 331371 | 0  | 0 cigarettes per day | 22 to 33 cigarettes per day | 1.363537 | 0.764654 |
| stroke | 332100 | 0  | 0 cigarettes per day | 1 to 19 cigarettes per day | 0.131028 | 0.129789 |
| stroke | 332100 | 1  | 0 cigarettes per day | 20 to 39 cigarettes per day | 0.277632 | 0.106293 |
| stroke | 332100 | 0  | 0 cigarettes per day | 40 to 60 cigarettes per day | 0.29267 | 0.171337 |
| stroke | 332100 | 0  | 0 cigarettes per day | 1 to 19 cigarettes per day | 1.160021 | 0.530996 |
| stroke | 332100 | 0  | 0 cigarettes per day | 40 to 60 cigarettes per day | 1.319086 | 0.656172 |
| stroke | 332100 | 0  | 0 cigarettes per day | 20 to 39 cigarettes per day | 1.329724 | 0.471061 |
| stroke | 332104 | 0  | 0 cigarettes per day | 1 to 19 cigarettes per day | 0.647103 | 0.177636 |
| stroke | 332104 | 0  | 0 cigarettes per day | 22 to 33 cigarettes per day | 0.751416 | 0.179293 |
| stroke | 332104 | 0  | 0 cigarettes per day | 20 to 20 cigarettes per day | 0.576613 | 0.199209 |
| stroke | 334028 | 0  | 0 cigarettes per day | 35 to 52.5 cigarettes per day | 2.324347 | 0.546897 |
| stroke | 334028 | 0  | 0 cigarettes per day | 25 to 34 cigarettes per day | 2.073172 | 0.467527 |
| stroke | 334028 | 0  | 0 cigarettes per day | 1 to 14 cigarettes per day | 1.453953 | 0.47027 |
| stroke   | 334028 | 0 | 0 cigarettes per day | 15 to 24 cigarettes per day | 1.391282 | 0.421363 |
|----------|--------|---|----------------------|-----------------------------|----------|----------|
| stroke   | 334410 | 0 | 0 cigarettes per day | 1 to 15 cigarettes per day  | 0.688633 | 0.146066 |
| stroke   | 334410 | 0 | 0 cigarettes per day | 36 to 45 cigarettes per day | 0.896272 | 0.14814  |
| stroke   | 334410 | 0 | 0 cigarettes per day | 16 to 25 cigarettes per day | 0.903598 | 0.111405 |
| stroke   | 334410 | 0 | 0 cigarettes per day | 26 to 35 cigarettes per day | 1.039863 | 0.126612 |
| stroke   | 334731 | 0 | 0 cigarettes per day | 25 to 37.5 cigarettes per day | 0.903598 | 0.111405 |
| stroke   | 334731 | 0 | 0 cigarettes per day | 16 to 25 cigarettes per day | 0.903598 | 0.111405 |
| stroke   | 334731 | 0 | 0 cigarettes per day | 26 to 35 cigarettes per day | 1.039863 | 0.126612 |
| stroke   | 334731 | 0 | 0 cigarettes per day | 1 to 14 cigarettes per day  | 0.223144 | 0.17551  |
| stroke   | 334731 | 0 | 0 cigarettes per day | 1 to 14 cigarettes per day  | 0.076961 | 0.179516 |
| stroke   | 334731 | 0 | 0 cigarettes per day | 15 to 24 cigarettes per day | 0.307485 | 0.161315 |
| stroke   | 334814 | 0 | 0 cigarettes per day | 1 to 10 cigarettes per day  | -0.40048 | 0.932836 |
| stroke   | 334814 | 0 | 0 cigarettes per day | 22 to 33 cigarettes per day | 0.792993 | 0.487118 |
| stroke   | 334814 | 0 | 0 cigarettes per day | 11 to 20 cigarettes per day | 0.900161 | 0.413763 |
| stroke   | 334967 | 0 | 0 cigarettes per day | 21 to 31.5 cigarettes per day | 0.948299 | 0.456084 |
| stroke   | 334967 | 0 | 0 cigarettes per day | 10 to 19 cigarettes per day | 0.848286 | 0.466922 |
| stroke   | 335266 | 1 | 0 cigarettes per day | 21 to 31.5 cigarettes per day | 0.24686  | 0.109614 |
| stroke   | 335266 | 1 | 0 cigarettes per day | 10 to 20 cigarettes per day | 0.039221 | 0.117739 |
| stroke   | 335266 | 0 | 0 cigarettes per day | 0 to 9 cigarettes per day   | 0.039221 | 0.117739 |
| stroke   | 335914 | 0 | 0 cigarettes per day | 10 to 19 cigarettes per day | 0.34359  | 0.14293  |
| stroke   | 335914 | 0 | 0 cigarettes per day | 21 to 31.5 cigarettes per day | 0.357674 | 0.137363 |
| stroke   | 335914 | 0 | 0 cigarettes per day | 1 to 9 cigarettes per day   | 0.672944 | 0.1692   |
| stroke   | 335914 | 0 | 0 cigarettes per day | 1 to 9 cigarettes per day   | 0.756122 | 0.259893 |
| stroke   | 335914 | 0 | 0 cigarettes per day | 10 to 19 cigarettes per day | 0.81978  | 0.244988 |
| stroke   | 335914 | 0 | 0 cigarettes per day | 21 to 31.5 cigarettes per day | 1.047319 | 0.266738 |
| stroke   | 336216 | 0 | 0 cigarettes per day | 40 to 60 cigarettes per day | 0.737164 | 0.126941 |
| stroke   | 336216 | 0 | 0 cigarettes per day | 20 to 39 cigarettes per day | 0.71295  | 0.078782 |
| stroke   | 336216 | 0 | 0 cigarettes per day | 20 to 39 cigarettes per day | 0.732368 | 0.127551 |
| stroke   | 336216 | 0 | 0 cigarettes per day | 10 to 19 cigarettes per day | 0.746688 | 0.099139 |
| stroke   | 336216 | 0 | 0 cigarettes per day | 0 to 9 cigarettes per day   | 0.698135 | 0.126916 |
| stroke   | 336216 | 0 | 0 cigarettes per day | 40 to 60 cigarettes per day | 0.943906 | 0.178671 |
| stroke   | 336216 | 0 | 0 cigarettes per day | 20 to 39 cigarettes per day | 0.993252 | 0.074641 |
| stroke   | 336216 | 0 | 0 cigarettes per day | 40 to 60 cigarettes per day | 1.05779  | 0.307363 |
| stroke   | 336216 | 0 | 0 cigarettes per day | 20 to 39 cigarettes per day | 0.81093  | 0.14059  |
| stroke   | 336216 | 0 | 0 cigarettes per day | 20 to 39 cigarettes per day | 0.683097 | 0.085034 |
| stroke   | 336216 | 0 | 0 cigarettes per day | 10 to 19 cigarettes per day | 0.615186 | 0.118588 |
| stroke   | 336216 | 0 | 0 cigarettes per day | 10 to 19 cigarettes per day | 0.542324 | 0.115686 |
| stroke   | 336216 | 0 | 0 cigarettes per day | 0 to 9 cigarettes per day   | 0.198851 | 0.094095 |
| stroke   | 336216 | 0 | 0 cigarettes per day | 0 to 9 cigarettes per day   | 0.254642 | 0.142383 |
| stroke   | 336216 | 1 | 0 cigarettes per day | 10 to 19 cigarettes per day | 0.277632 | 0.079236 |
| stroke   | 336216 | 0 | 0 cigarettes per day | 40 to 60 cigarettes per day | 0.34359  | 0.416124 |
| stroke   | 336216 | 0 | 0 cigarettes per day | 0 to 9 cigarettes per day   | 0.00995  | 0.103556 |
| stroke | 336216 | 0 | 0 cigarettes per day | 0 to 9 cigarettes per day | 0.431782 | 0.139147 |
|---|---|---|---|---|---|---|
| stroke | 336216 | 0 | 0 cigarettes per day | 40 to 60 cigarettes per day | 0.438255 | 0.128374 |
| stroke | 336216 | 0 | 0 cigarettes per day | 10 to 19 cigarettes per day | 0.530628 | 0.090036 |
| stroke | 336216 | 1 | 0 cigarettes per day | 20 to 39 cigarettes per day | 0.371564 | 0.059817 |
| stroke | 336319 | 0 | 0 cigarettes per day | 25 to 37.5 cigarettes per day | -1.20397 | 1.794218 |
| stroke | 336319 | 0 | 0 cigarettes per day | 15 to 24 cigarettes per day | 0.173953 | 0.621677 |
| stroke | 336319 | 0 | 0 cigarettes per day | 15 to 24 cigarettes per day | 0.29267 | 0.426439 |
| stroke | 336319 | 0 | 0 cigarettes per day | 1 to 14 cigarettes per day | 0.378436 | 0.318004 |
| stroke | 336319 | 0 | 0 cigarettes per day | 1 to 14 cigarettes per day | 0.86289 | 0.256178 |
| stroke | 336319 | 0 | 0 cigarettes per day | 25 to 37.5 cigarettes per day | 0.871293 | 0.49953 |
| stroke | 336801 | 0 | 0 cigarettes per day | 22 to 33 cigarettes per day | 0.788457 | 0.31308 |
| stroke | 336801 | 0 | 0 cigarettes per day | 20 to 20 cigarettes per day | 0.788457 | 0.231911 |
| stroke | 336801 | 0 | 0 cigarettes per day | 22 to 33 cigarettes per day | 0.470004 | 0.111607 |
| stroke | 336801 | 1 | 0 cigarettes per day | 20 to 20 cigarettes per day | 0.336472 | 0.080175 |
| stroke | 336801 | 0 | 0 cigarettes per day | 1 to 19 cigarettes per day | 0.300105 | 0.066138 |
| stroke | 336801 | 0 | 0 cigarettes per day | 1 to 19 cigarettes per day | 0.300105 | 0.132275 |
| stroke | 343297 | 0 | 0 cigarettes per day | 1 to 20 cigarettes per day | 0.875469 | 0.212585 |
| stroke | 343297 | 0 | 0 cigarettes per day | 20 to 20 cigarettes per day | 0.955511 | 0.24529 |
| stroke | 343297 | 0 | 0 cigarettes per day | 22 to 33 cigarettes per day | 1.252763 | 0.182216 |
| stroke | 343300 | 0 | 0 cigarettes per day | 21 to 31.5 cigarettes per day | 2.230014 | 0.650099 |
| stroke | 343300 | 1 | 0 cigarettes per day | 21 to 31.5 cigarettes per day | 2.054124 | 0.385924 |
| stroke | 343300 | 0 | 0 cigarettes per day | 21 to 31.5 cigarettes per day | 1.824549 | 0.576037 |
| stroke | 343300 | 1 | 0 cigarettes per day | 0 to 20 cigarettes per day | 1.435085 | 0.291545 |
| stroke | 343300 | 0 | 0 cigarettes per day | 0 to 20 cigarettes per day | 1.131402 | 0.518433 |
| stroke | 343300 | 0 | 0 cigarettes per day | 0 to 20 cigarettes per day | 1.629241 | 0.390156 |
| stroke | 343306 | 0 | 0 cigarettes per day | 1 to 14 cigarettes per day | 0.81978 | 0.148341 |
| stroke | 343306 | 0 | 0 cigarettes per day | 25 to 34 cigarettes per day | 1.07841 | 0.189157 |
| stroke | 343306 | 0 | 0 cigarettes per day | 35 to 52.5 cigarettes per day | 1.081805 | 0.258561 |
| stroke | 343306 | 1 | 0 cigarettes per day | 15 to 24 cigarettes per day | 1.712482 | 0.124787 |
| stroke | 343582 | 0 | 0 cigarettes per day | 15 to 24 cigarettes per day | 0.457425 | 1.341708 |
| stroke | 343582 | 0 | 0 cigarettes per day | 15 to 24 cigarettes per day | 0.559616 | 1.21137 |
| stroke | 343582 | 0 | 0 cigarettes per day | 25 to 37.5 cigarettes per day | 0.390242 | 1.432363 |
| stroke | 343582 | 0 | 0 cigarettes per day | 25 to 37.5 cigarettes per day | 0.788457 | 0.96359 |
| stroke | 343582 | 0 | 0 cigarettes per day | 15 to 24 cigarettes per day | 0.582216 | 1.184301 |
| stroke | 343582 | 0 | 0 cigarettes per day | 25 to 37.5 cigarettes per day | 0.385262 | 1.442107 |
| stroke | 343582 | 0 | 0 cigarettes per day | 25 to 37.5 cigarettes per day | 0.285179 | 1.593908 |
| stroke | 343582 | 0 | 0 cigarettes per day | 1 to 14 cigarettes per day | 0.19062 | 1.751982 |
| stroke | 343582 | -1 | 0 cigarettes per day | 1 to 14 cigarettes per day | 0.14842 | 1.827498 |
| stroke | 343582 | 0 | 0 cigarettes per day | 15 to 24 cigarettes per day | 0.04879 | 2.01895 |
| stroke | 343582 | -1 | 0 cigarettes per day | 15 to 24 cigarettes per day | -0.01005 | 2.141311 |
| stroke | 343582 | 0 | 0 cigarettes per day | 15 to 24 cigarettes per day | -0.23572 | 2.683415 |
| stroke | 343647 | 0 | 0 cigarettes per day | 15 to 24 cigarettes per day | 0.991271 | 0.433303 |
| stroke | 343647 | 0 | 0 cigarettes per day | 26 to 39 cigarettes per day | 0.794684 | 0.487908 |
| stroke   | cigarettes per day | cigarettes per day | 26 to 39 cigarettes per day | 0.788457 | 0.595431 |
|----------|--------------------|--------------------|-----------------------------|----------|----------|
| stroke   | cigarettes per day | 15 to 24 cigarettes per day | 0.336472 | 0.625911 |
| stroke   | cigarettes per day | 1 to 14 cigarettes per day | 0.587787 | 0.625858 |
| stroke   | cigarettes per day | 15 to 24 cigarettes per day | 0.296068 | 0.260877 |
| stroke   | cigarettes per day | 1 to 14 cigarettes per day | 0.23679 | 0.497853 |
| stroke   | cigarettes per day | 26 to 39 cigarettes per day | 0.331925 | 0.381652 |
| stroke   | cigarettes per day | 1 to 19 cigarettes per day | 0.620576 | 0.314077 |
| stroke   | cigarettes per day | 20 to 30 cigarettes per day | 0.996949 | 0.201446 |
| stroke   | cigarettes per day | 41 to 61.5 cigarettes per day | 2.208274 | 0.639157 |
| stroke   | cigarettes per day | 1 to 10 cigarettes per day | 0.788457 | 0.20872 |
| stroke   | cigarettes per day | 11 to 20 cigarettes per day | 0.916291 | 0.22449 |
| stroke   | cigarettes per day | 21 to 39 cigarettes per day | 1.458615 | 0.486474 |
| stroke   | cigarettes per day | 15 to 22.5 cigarettes per day | 1.23256 | 0.356994 |
| stroke   | cigarettes per day | 0 to 14 cigarettes per day | 0.65752 | 0.564397 |
| stroke   | cigarettes per day | 0 to 19 cigarettes per day | 0.722706 | 0.568407 |
| stroke   | cigarettes per day | 1 to 19 cigarettes per day | 1.199965 | 0.638523 |
| stroke   | cigarettes per day | 1 to 20 cigarettes per day | 1.199965 | 0.638523 |
| stroke   | cigarettes per day | 20 to 30 cigarettes per day | 1.813195 | 0.345823 |
| stroke   | cigarettes per day | 21 to 31.5 cigarettes per day | 1.813195 | 0.345823 |
| stroke   | cigarettes per day | 1 to 9 cigarettes per day | 0.262364 | 0.255102 |
| stroke   | cigarettes per day | 10 to 20 cigarettes per day | 0.587787 | 0.170068 |
| stroke   | cigarettes per day | 22 to 33 cigarettes per day | 0.788457 | 0.405844 |
| stroke   | cigarettes per day | 16 to 24 cigarettes per day | 0.182322 | 1.766582 |
| stroke   | cigarettes per day | 1 to 15 cigarettes per day | 0.09531 | 1.92718 |
| stroke   | cigarettes per day | 1 to 15 cigarettes per day | 0.587787 | 1.177721 |
| stroke   | cigarettes per day | 16 to 24 cigarettes per day | 0.916291 | 0.847959 |
| stroke   | cigarettes per day | 1 to 14 cigarettes per day | 0.916291 | 0.22449 |
| stroke   | cigarettes per day | 14 to 25 cigarettes per day | 1.064711 | 0.193526 |
| stroke   | cigarettes per day | 26 to 39 cigarettes per day | 1.335001 | 0.194683 |
| stroke   | cigarettes per day | 40 to 40 cigarettes per day | 0.641854 | 1.115736 |
| stroke   | cigarettes per day | 30 to 30 cigarettes per day | 0.512824 | 1.2694 |
| stroke   | cigarettes per day | 40 to 40 cigarettes per day | 0.678034 | 1.07609 |
| stroke   | cigarettes per day | 30 to 30 cigarettes per day | 0.482426 | 1.308579 |
| stroke   | cigarettes per day | 20 to 20 cigarettes per day | 0.322083 | 1.536158 |
| stroke   | cigarettes per day | 10 to 10 cigarettes per day | 0.173953 | 1.781427 |
| stroke   | cigarettes per day | 10 to 10 cigarettes per day | 0.157004 | 1.811879 |
| stroke   | cigarettes per day | 20 to 20 cigarettes per day | 0.336472 | 1.514213 |
| stroke   | cigarettes per day | 40 to 60 cigarettes per day | -0.21072 | 2.617158 |
| stroke   | cigarettes per day | 10 to 39 cigarettes per day | -0.16252 | 2.493998 |
| stroke   | cigarettes per day | 1 to 9 cigarettes per day | 0.254642 | 1.643332 |
| stroke   | cigarettes per day | 20 to 30 cigarettes per day | 1.686399 | 0.316515 |
| stroke   | cigarettes per day | 21 to 31.5 cigarettes per day | 1.686399 | 0.316515 |
| stroke | 350743 | 0 | 0 cigarettes per day | 1 to 20 cigarettes per day | 1.193922 | 0.255102 |
|--------|--------|---|----------------------|---------------------------|------------|-----------|
| stroke | 350743 | 0 | 0 cigarettes per day | 1 to 19 cigarettes per day | 0.806476  | 0.321155  |
| stroke | 350747 | 0 | 0 cigarettes per day | 0 to 19 cigarettes per day | 0.806476  | 0.321155  |
| stroke | 350747 | 0 | 0 cigarettes per day | 21 to 31.5 cigarettes per day | 1.000632  | 0.392972  |
| stroke | 350747 | 0 | 0 cigarettes per day | 21 to 31.5 cigarettes per day | 1.000632  | 0.392972  |
| stroke | 350749 | 0 | 0 cigarettes per day | 21 to 31.5 cigarettes per day | 1.223775  | 0.554472  |
| stroke | 350749 | 0 | 0 cigarettes per day | 21 to 30 cigarettes per day | 1.015231  | 0.262496  |
| stroke | 350753 | 1 | 0 cigarettes per day | 11 to 20 cigarettes per day | 1.358409  | 0.20395   |
| stroke | 350753 | 0 | 0 cigarettes per day | 21 to 30 cigarettes per day | 1.015231  | 0.262496  |
| stroke | 350753 | 0 | 0 cigarettes per day | 31 to 46.5 cigarettes per day | 0.593327  | 0.185252  |
| stroke | 350753 | 0 | 0 cigarettes per day | 1 to 9 cigarettes per day | 1.18479   | 0.490567  |
| stroke | 350753 | 1 | 0 cigarettes per day | 1 to 9 cigarettes per day | 0.530628  | 0.036074  |
| stroke | 350753 | 0 | 0 cigarettes per day | 10 to 19 cigarettes per day | 0.530628  | 0.035863  |
| stroke | 350757 | 0 | 0 cigarettes per day | 10 to 19 cigarettes per day | 0.722706  | 0.034559  |
| stroke | 350757 | 1 | 0 cigarettes per day | 6 to 14 cigarettes per day | 1.360977  | 0.234171  |
| stroke | 357417 | 1 | 0 cigarettes per day | 0 to 5 cigarettes per day  | 1.272566  | 0.291545  |
| stroke | 357417 | 1 | 0 cigarettes per day | 15 to 22.5 cigarettes per day | 1.536867  | 0.176103  |
| stroke | 357431 | 0 | 0 cigarettes per day | 21 to 31.5 cigarettes per day | 1.029619  | 0.273324  |
| stroke | 357431 | 0 | 0 cigarettes per day | 21 to 31.5 cigarettes per day | 1.570697  | 0.270482  |
| stroke | 357431 | 0 | 0 cigarettes per day | 1 to 10 cigarettes per day | 0.751416  | 0.493358  |
| stroke | 357431 | 0 | 0 cigarettes per day | 1 to 10 cigarettes per day | 0.582216  | 0.57006   |
| stroke | 357431 | 0 | 0 cigarettes per day | 11 to 20 cigarettes per day | 0.620576  | 0.342879  |
| stroke | 357431 | 0 | 0 cigarettes per day | 11 to 20 cigarettes per day | 0.451076  | 0.357468  |
| stroke | 357435 | 0 | 0 cigarettes per day | 11 to 20 cigarettes per day | 0.451076  | 0.357468  |
| stroke | 357435 | 0 | 0 cigarettes per day | 1 to 10 cigarettes per day | 0.582216  | 0.57006   |
| stroke | 357435 | 0 | 0 cigarettes per day | 11 to 20 cigarettes per day | 0.620576  | 0.342879  |
| stroke | 357435 | 0 | 0 cigarettes per day | 1 to 10 cigarettes per day | 0.751416  | 0.493358  |
| stroke | 357435 | 0 | 0 cigarettes per day | 21 to 31.5 cigarettes per day | 1.029619  | 0.273324  |
| stroke | 357445 | 0 | 0 cigarettes per day | 21 to 31.5 cigarettes per day | 1.570697  | 0.270482  |
| stroke | 357445 | 0 | 0 cigarettes per day | 21 to 31.5 cigarettes per day | 1.258461  | 0.564558  |
| stroke | 357445 | 0 | 0 cigarettes per day | 1 to 20 cigarettes per day | 0.688135  | 0.352528  |
| stroke | 358462 | 0 | 0 cigarettes per day | 20 to 39 cigarettes per day | -0.13926  | 0.39878   |
| stroke | 358462 | 0 | 0 cigarettes per day | 0 to 19 cigarettes per day | -0.05129  | 0.373255  |
| stroke | 358462 | 0 | 0 cigarettes per day | 40 to 60 cigarettes per day | 1.214913  | 0.887937  |
| Stroke  | Cigarettes per day | Cigarettes per day | β          | SE          |
|---------|-------------------|-------------------|------------|-------------|
| Stroke  | 358466            | 0                 | 0 cigarettes per day | 1 to 10 cigarettes per day | 0.19062 | 0.198178 |
| Stroke  | 358466            | 0                 | 0 cigarettes per day | 0 to 20 cigarettes per day | 0.512824 | 0.168031 |
| Stroke  | 358470            | 0                 | 0 cigarettes per day | 21 to 31.5 cigarettes per day | 0.652325 | 0.220557 |
| Stroke  | 358476            | 0                 | 0 cigarettes per day | 11 to 20 cigarettes per day | 0.765468 | 0.552919 |
| Stroke  | 358476            | 1                 | 0 cigarettes per day | 21 to 31.5 cigarettes per day | 1.991976 | 0.36647 |
| Stroke  | 358476            | 0                 | 0 cigarettes per day | 0 to 10 cigarettes per day | 0.157004 | 0.481859 |
| Stroke  | 358506            | 0                 | 0 cigarettes per day | 21 to 31.5 cigarettes per day | 1.365337 | 0.764564 |
| Stroke  | 412060            | 0                 | 0 cigarettes per day | 21 to 31.5 cigarettes per day | 1.722767 | 0.270563 |
| Stroke  | 412060            | 0                 | 0 cigarettes per day | 16 to 24 cigarettes per day | 0.741937 | 0.170068 |
| Stroke  | 429295            | 0                 | 0 cigarettes per day | 1 to 9 cigarettes per day | 0.371564 | 0.395848 |
| Stroke  | 429295            | 0                 | 0 cigarettes per day | 10 to 15 cigarettes per day | 0.955511 | 0.224581 |
| Stroke  | 429295            | 0                 | 0 cigarettes per day | 1 to 9 cigarettes per day | 0.832909 | 0.230323 |
| Stroke  | 429295            | 0                 | 0 cigarettes per day | 10 to 15 cigarettes per day | 1.163151 | 0.271146 |
| Stroke  | 432350            | 0                 | 0 cigarettes per day | 15 to 24 cigarettes per day | 0.955511 | 0.291351 |
| Stroke  | 432350            | 0                 | 0 cigarettes per day | 25 to 37.5 cigarettes per day | 0.425268 | 0.125159 |
| Stroke  | 432350            | 1                 | 0 cigarettes per day | 1 to 14 cigarettes per day | 0.329304 | 0.080262 |
| Stroke  | 432350            | 1                 | 0 cigarettes per day | 15 to 24 cigarettes per day | 0.019803 | 0.054696 |
| Stroke  | 432350            | 1                 | 0 cigarettes per day | 10 to 15 cigarettes per day | 0.10436 | 0.048189 |
| Stroke  | 432350            | 1                 | 0 cigarettes per day | 1 to 14 cigarettes per day | -0.13926 | 0.617004 |
| Stroke  | 432350            | 1                 | 0 cigarettes per day | 25 to 37.5 cigarettes per day | 0.086178 | 0.072042 |
| Stroke  | 501860            | 0                 | 0 cigarettes per day | 20 to 30 cigarettes per day | 1.10194 | 0.328646 |
| Stroke  | 501860            | 0                 | 0 cigarettes per day | 10 to 19 cigarettes per day | 1.381282 | 0.249557 |
| Stroke  | 501860            | 0                 | 0 cigarettes per day | 1 to 9 cigarettes per day | 1.040277 | 0.279219 |
| Stroke  | 501860            | 0                 | 0 cigarettes per day | 1 to 19 cigarettes per day | 0.307485 | 0.105723 |
| Stroke  | 501896            | 0                 | 0 cigarettes per day | 20 to 30 cigarettes per day | 0.29267 | 0.096445 |
| Stroke  | 501942            | 0                 | 0 cigarettes per day | 30 to 45 cigarettes per day | 0.636577 | 0.285711 |
| Stroke  | 501942            | 0                 | 0 cigarettes per day | 1 to 14 cigarettes per day | -0.10536 | 0.283508 |
| Stroke  | 501942            | 0                 | 0 cigarettes per day | 30 to 45 cigarettes per day | 0.307485 | 0.362073 |
| Stroke  | 501942            | 0                 | 0 cigarettes per day | 15 to 29 cigarettes per day | 0.198851 | 0.240374 |
| Stroke  | 501942            | 0                 | 0 cigarettes per day | 15 to 29 cigarettes per day | 0.122218 | 0.215161 |
| Stroke  | 501942            | 0                 | 0 cigarettes per day | 30 to 45 cigarettes per day | 1.226712 | 0.525455 |
| Stroke  | 501942            | 0                 | 0 cigarettes per day | 15 to 29 cigarettes per day | -0.75502 | 0.578746 |
| Stroke  | 501942            | 0                 | 0 cigarettes per day | 1 to 14 cigarettes per day | -0.13926 | 0.617004 |
| Stroke  | 501942            | 0                 | 0 cigarettes per day | 1 to 14 cigarettes per day | -0.09431 | 0.325585 |
| stroke | 501943 | 0 | 0 cigarettes per day | 1 to 9 cigarettes per day | 0.506818 | 0.0796 |
| stroke | 501943 | 0 | 0 cigarettes per day | 10 to 20 cigarettes per day | 0.587787 | 0.050907 |
| stroke | 501943 | 0 | 0 cigarettes per day | 21 to 31.5 cigarettes per day | 0.806476 | 0.048793 |
| stroke | 502077 | 0 | 0 cigarettes per day | 20 to 30 cigarettes per day | 0.500775 | 0.0796 |
| stroke | 502077 | 1 | 0 cigarettes per day | 10 to 19 cigarettes per day | 0.322083 | 0.075523 |
| stroke | 502248 | 0 | 0 cigarettes per day | 20 to 30 cigarettes per day | 0.963174 | 0.330772 |
| stroke | 502250 | 0 | 0 cigarettes per day | 1 to 9 cigarettes per day | 0.139762 | 0.07844 |
| stroke | 502250 | 0 | 0 cigarettes per day | 10 to 19 cigarettes per day | 0.314811 | 0.275971 |
| stroke | 502250 | 0 | 0 cigarettes per day | 20 to 30 cigarettes per day | 1.108563 | 0.116837 |
| stroke | 502250 | 0 | 0 cigarettes per day | 10 to 19 cigarettes per day | 0.553885 | 0.250512 |
| stroke | 502250 | 0 | 0 cigarettes per day | 20 to 30 cigarettes per day | 0.518794 | 0.317141 |
| stroke | 502250 | 0 | 0 cigarettes per day | 1 to 9 cigarettes per day | 0.19062 | 0.186361 |
| stroke | 502250 | 1 | 0 cigarettes per day | 20 to 30 cigarettes per day | 1.071584 | 0.079189 |
| stroke | 502250 | 0 | 0 cigarettes per day | 10 to 19 cigarettes per day | 0.604316 | 0.105141 |
| stroke | 502250 | 0 | 0 cigarettes per day | 20 to 30 cigarettes per day | 0.518794 | 0.317141 |
| tb | 173863 | 0 | 0 cigarettes per day | 1 to 14 cigarettes per day | 0.559616 | 1.697376 |
| tb | 173863 | 0 | 0 cigarettes per day | 15 to 24 cigarettes per day | 0.81093 | 1.320181 |
| tb | 173863 | 0 | 0 cigarettes per day | 25 to 37.5 cigarettes per day | 1.609438 | 0.594082 |
| tb | 236195 | 1 | 0 cigarettes per day | 1 to 9 cigarettes per day | 0.00995 | 2.940998 |
| tb | 236195 | 0 | 0 cigarettes per day | 10 to 19 cigarettes per day | 0.215111 | 2.149666 |
| tb | 236195 | 0 | 0 cigarettes per day | 20 to 30 cigarettes per day | 0.207014 | 2.419666 |
| tb | 236195 | 0 | 0 cigarettes per day | 1 to 9 cigarettes per day | 0.215111 | 2.39549 |
| tb | 236195 | 0 | 0 cigarettes per day | 10 to 20 cigarettes per day | 0.392042 | 2.007033 |
| tb | 236195 | 0 | 0 cigarettes per day | 22 to 33 cigarettes per day | 0.451076 | 1.89198 |
| tb | 236195 | 0 | 0 cigarettes per day | 22 to 33 cigarettes per day | 0.708036 | 1.463255 |
| tb | 298335 | 0 | 0 cigarettes per day | 0 to 4 cigarettes per day | -0.10536 | 0.340136 |
| tb | 298335 | 0 | 0 cigarettes per day | 5 to 7.5 cigarettes per day | 0.262364 | 0.333595 |
| tb | 298340 | 0 | 0 cigarettes per day | 5 to 15 cigarettes per day | 0.182322 | 0.297619 |
| tb | 298340 | 0 | 0 cigarettes per day | 16 to 29 cigarettes per day | 0.336472 | 0.291545 |
| tb | 298340 | 0 | 0 cigarettes per day | 30 to 45 cigarettes per day | 0.470004 | 0.57398 |
| tb | 298340 | 0 | 0 cigarettes per day | 0 to 4 cigarettes per day | 0.587787 | 0.198413 |
| tb | 327906 | 0 | 0 cigarettes per day | 0 to 9 cigarettes per day | 1.308333 | 0.59294 |
| tb | 327906 | 0 | 0 cigarettes per day | 10 to 15 cigarettes per day | 0.609766 | 0.596162 |
| tb | 327949 | 0 | 0 cigarettes per day | 5 to 15 cigarettes per day | 0.14842 | 0.628958 |
| tb | 327949 | 0 | 0 cigarettes per day | 0 to 5 cigarettes per day | 0.625938 | 0.795318 |
| tb | 327949 | 0 | 0 cigarettes per day | 15 to 25 cigarettes per day | 0.760806 | 0.454177 |
| tb | 327949 | 0 | 0 cigarettes per day | 26 to 39 cigarettes per day | 1.638997 | 0.665742 |
| tb | 327956 | 1 | 0 cigarettes per day | 20 to 30 cigarettes per day | 0.198851 | 0.148461 |
| tb | 327956 | 0 | 0 cigarettes per day | 1 to 9 cigarettes per day | 0.019803 | 0.332633 |
| tb      | 327956 | 0 0 cigarettes per day | 10 to 19 cigarettes per day | 0.09531 | 0.435993 |
|---------|--------|------------------------|-----------------------------|---------|---------|
| tb      | 327956 | 0 0 cigarettes per day | 1 to 9 cigarettes per day   | 0.157004| 0.139543|
| tb      | 327956 | 1 0 cigarettes per day | 10 to 19 cigarettes per day | 0.215111| 0.131666|
| tb      | 327956 | 0 0 cigarettes per day | 20 to 30 cigarettes per day | 0.285179| 0.726945|
| tb      | 343383 | 0 0 cigarettes per day | 1 to 10 cigarettes per day  | 0.631272| 0.343482|
| tb      | 343383 | 0 0 cigarettes per day | 11 to 16.5 cigarettes per day| 0.625938| 0.360486|
| tb      | 343582 | 0 0 cigarettes per day | 25 to 37.5 cigarettes per day| 1.652497| 0.569044|
| tb      | 343582 | 0 0 cigarettes per day | 25 to 37.5 cigarettes per day| 1.181727| 0.911168|
| tb      | 343582 | 0 0 cigarettes per day | 25 to 37.5 cigarettes per day| 1.890095| 0.448702|
| tb      | 343582 | 0 0 cigarettes per day | 15 to 24 cigarettes per day  | 1.075002| 1.013791|
| tb      | 343582 | 0 0 cigarettes per day | 15 to 24 cigarettes per day  | 0.350657| 2.091837|
| tb      | 343582 | 0 0 cigarettes per day | 1 to 14 cigarettes per day   | 0.270027| 2.267487|
| tb      | 343582 | 0 0 cigarettes per day | 1 to 14 cigarettes per day   | 0.029559| 2.883891|
| tb      | 343582 | 0 0 cigarettes per day | 1 to 14 cigarettes per day   | 0.019803| 2.912165|
| tb      | 343582 | 0 0 cigarettes per day | 1 to 14 cigarettes per day   | 0.86289 | 1.253337|
| tb      | 343582 | 0 0 cigarettes per day | 15 to 22.5 cigarettes per day| 1.671473| 0.558347|
| tb      | 343582 | 0 0 cigarettes per day | 15 to 22.5 cigarettes per day| 1.381282| 0.726849|
| tb      | 348053 | 0 0 cigarettes per day | 10 to 14 cigarettes per day  | 0.593327| 0.248055|
| tb      | 348053 | 0 0 cigarettes per day | 10 to 14 cigarettes per day  | 1.029619| 1.06086 |
| tb      | 348053 | 0 0 cigarettes per day | 10 to 14 cigarettes per day  | 1.283708| 0.822828|
| tb      | 348053 | 1 0 cigarettes per day | 10 to 14 cigarettes per day  | 1.625311| 0.584726|
| tb      | 359225 | 0 0 cigarettes per day | 11 to 16.5 cigarettes per day| 1.000632| 0.469875|
| tb      | 359225 | 0 0 cigarettes per day | 1 to 10 cigarettes per day   | -0.15082| 0.542833|
| tb      | 359225 | 0 0 cigarettes per day | 1 to 10 cigarettes per day   | 0.15082 | 0.542833|
| tb      | 359228 | 0 0 cigarettes per day | 11 to 20 cigarettes per day  | 0.883768| 0.502825|
| tb      | 359228 | 0 0 cigarettes per day | 5 to 10 cigarettes per day   | 0.34359 | 2.106672|
| tb      | 359228 | 0 0 cigarettes per day | 5 to 10 cigarettes per day   | 0.48858 | 1.822336|
| tb      | 359228 | 0 0 cigarettes per day | 16 to 20 cigarettes per day  | 0.548121| 1.716999|
| tb      | 359228 | 0 0 cigarettes per day | 21 to 25 cigarettes per day  | 1.648659| 0.571232|
| tb      | 359228 | 0 0 cigarettes per day | 21 to 25 cigarettes per day  | 1.648659| 0.571232|
| tb      | 359230 | 0 0 cigarettes per day | 11 to 16.5 cigarettes per day| 1.018847| 0.142747|
| tb      | 359230 | 0 0 cigarettes per day | 11 to 16.5 cigarettes per day| 0.262364| 0.237441|
| tb      | 359230 | 0 0 cigarettes per day | 11 to 16.5 cigarettes per day| 0.593327| 0.248055|
| tb      | 369826 | 0 0 cigarettes per day | 30 to 45 cigarettes per day  | 0.82322 | 0.786565|
| tb      | 501926 | 0 0 cigarettes per day | 1 to 12 cigarettes per day   | 0.57098 | 0.087541|
| tb      | 501926 | 0 0 cigarettes per day | 1 to 12 cigarettes per day   | 0.802002| 0.077343|
| tb      | 501936 | 0 0 cigarettes per day | 11 to 20 cigarettes per day  | 0.943906| 0.317461|
| tb      | 501936 | 0 0 cigarettes per day | 11 to 20 cigarettes per day  | 2.506342| 0.383595|
### Section 9: GATHER and PRISMA checklists

#### Section 9.1: PRISMA

**Table 9: PRISMA Manuscript Checklist**

| Section and Topic | Item # | Checklist item | Location where item is reported |
|-------------------|--------|----------------|---------------------------------|
| TITLE             | 1      | Identify the report as a systematic review. | Following a request by the Journal, systematic review does not appear in the title, but it is in the abstract and first page of the manuscript. |
| ABSTRACT          | 2      | See the PRISMA 2020 for Abstracts checklist. | Page 2, “Abstract”, See PRISMA abstract checklist below |
| INTRODUCTION      | 3      | Describe the rationale for the review in the context of existing knowledge. | Main text in the first and second paragraphs |
|                   | 4      | Provide an explicit statement of the objective(s) or question(s) the review addresses. | Main text (second paragraph) |
| METHODS           | 5      | Specify the inclusion and exclusion criteria for the review and how studies were grouped for the syntheses. | Main text (Methods Overview and Systematic review of literature and data extraction sections); SI Section 1; SI Section 5 |
|                   | 6      | Specify all databases, registers, websites, organisations, reference lists and other sources searched or consulted to identify studies. Specify the date when each source was last searched or consulted. | Main text (Methods Systematic review of literature and data extraction section); SI Section 1.1 |
|                   | 7      | Present the full search strategies for all databases, registers and websites, including any filters and limits used. | SI Section 1.1 |
|                   | 8      | Specify the methods used to decide whether a study met the inclusion criteria of the review, including how many reviewers screened each record and each report retrieved, whether they worked independently, and if applicable, details of automation tools used in the process. | Main text (Methods Systematic review of literature and data extraction section); SI Section 1.1 |
|                   | 9      | Specify the methods used to collect data from reports, including how many reviewers collected data from each report, whether they worked independently, any processes for obtaining or confirming data from study investigators, and if applicable, details of automation tools used in the process. | Main text (Methods Systematic review of literature and data extraction section); SI Section 1.4 |
|                   | 10a    | List and define all outcomes for which data were sought. Specify whether all results that were compatible with each outcome domain in each study were sought (e.g. for all measures, time points, analyses), and if not, the methods used to decide which results to collect. | Main text (Methods Overview); SI Section 1.3 |
|                   | 10b    | List and define all other variables for which data were sought (e.g. participant and intervention characteristics, funding sources). | SI Section 5.1; SI Section 1.4 |
| Study risk of bias assessment | 11 | Describe any assumptions made about any missing or unclear information. | Main text (Methods Modeling dose-response relative risk of smoking on the selected health outcomes section); SI Section 5.2; SI Section 3 |
|-----------------------------|----|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| Effect measures             | 12 | Specify for each outcome the effect measure(s) (e.g. risk ratio, mean difference) used in the synthesis or presentation of results. | Main text (Methods Estimating the mean risk function and the burden of proof risk function section) |
| Synthesis methods           | 13a | Describe the processes used to decide which studies were eligible for each synthesis (e.g. tabulating the study intervention characteristics and comparing against the planned groups for each synthesis (item #5)). | Main text (Methods Estimating the age-specific risk function for CVD outcomes); SI Section 2.1; SI Section 5 |
|                            | 13b | Describe any methods required to prepare the data for presentation or synthesis, such as handling of missing summary statistics, or data conversions. | Main text (Methods); SI Section 5.1 |
|                            | 13c | Describe any methods used to tabulate or visually display results of individual studies and syntheses. | Main text (Figure captions) |
|                            | 13d | Describe any methods used to synthesize results and provide a rationale for the choice(s). If meta-analysis was performed, describe the model(s), method(s) to identify the presence and extent of statistical heterogeneity, and software package(s) used. | Main text (Methods); Main text (Code availability) |
|                            | 13e | Describe any methods used to explore possible causes of heterogeneity among study results (e.g. subgroup analysis, meta-regression). | Main text (Methods Modeling dose-response relative risk of smoking on the selected health outcomes); SI Section 5.1 |
|                            | 13f | Describe any sensitivity analyses conducted to assess robustness of the synthesized results. | Main text (Model validation); SI Section 6 |
| Reporting bias assessment   | 14 | Describe any methods used to assess risk of bias due to missing results in a synthesis (arising from reporting biases). | Main text (Methods Modeling dose-response relative risk of smoking on the selected health outcomes); SI Section 5.1 |
| Certainty assessment        | 15 | Describe any methods used to assess certainty (or confidence) in the body of evidence for an outcome. | Main text (Methods Modeling dose-response relative risk of smoking on the selected health outcomes); SI Section 5.2 |
| RESULTS                     |    |                                                                 |                                                                                                                                 |
| Study selection             | 16a | Describe the results of the search and selection process, from the number of records identified in the search to the number of studies included in the review, ideally using a flow diagram. | SI Section 1.5 |
|                            | 16b | Cite studies that might appear to meet the inclusion criteria, but which were excluded, and explain why they were excluded. | N/A |
| Study characteristics       | 17 | Cite each included study and present its characteristics. | SI Section 2 |
| Risk of bias in studies     | 18 | Present assessments of risk of bias for each included study. | SI Section 3 |
| Results of individual studies| 19 | For all outcomes, present, for each study: (a) summary statistics for each group (where appropriate) and (b) an effect estimate and its precision (e.g. confidence/credible interval), ideally using structured tables or plots. | SI Section 8 |
| Section and Topic | Item # | Checklist item                                                                 | Reported (Yes/No)                  |
|------------------|--------|--------------------------------------------------------------------------------|-----------------------------------|
| Results of syntheses | 20a    | For each synthesis, briefly summarise the characteristics and risk of bias among contributing studies. | SI Section 5.2                    |
|                   | 20b    | Present results of all statistical syntheses conducted. If meta-analysis was done, present for each the summary estimate and its precision (e.g. confidence/credible interval) and measures of statistical heterogeneity. If comparing groups, describe the direction of the effect. | Main text (Results); Main text (Figures); SI Section 5.2; SI Section 4 |
|                   | 20c    | Present results of all investigations of possible causes of heterogeneity among study results. | N/A                               |
|                   | 20d    | Present results of all sensitivity analyses conducted to assess the robustness of the synthesized results. | SI Section 6                      |
| Reporting biases  | 21     | Present assessments of risk of bias due to missing results (arising from reporting biases) for each synthesis assessed. | SI Section 6                      |
| Certainty of evidence | 22   | Present assessments of certainty (or confidence) in the body of evidence for each outcome assessed. | Main text (Results)               |
| DISCUSSION        | 23a    | Provide a general interpretation of the results in the context of other evidence. | Main text (Discussion first and second paragraph) |
|                   | 23b    | Discuss any limitations of the evidence included in the review. | Main text (Discussion limitations paragraph) |
|                   | 23c    | Discuss any limitations of the review processes used. | Main text (Discussion limitations paragraph) |
|                   | 23d    | Discuss implications of the results for practice, policy, and future research. | Main text (Discussion fourth paragraph) |
| OTHER INFORMATION | 24a    | Provide registration information for the review, including register name and registration number, or state that the review was not registered. | The Global Burden of Disease, Injuries, and Risk Factors study has been registered through UW IRB (#9060). This systematic review is encompassed in this larger study. |
| Registration and protocol | 24b    | Indicate where the review protocol can be accessed, or state that a protocol was not prepared. | A protocol specifically for this review update was not prepared. |
|                   | 24c    | Describe and explain any amendments to information provided at registration or in the protocol. | N/A                               |
| Support           | 25     | Describe sources of financial or non-financial support for the review, and the role of the funders or sponsors in the review. | Main text (Acknowledgements) |
| Competing interests | 26    | Declare any competing interests of review authors. | Main text (Competing interests) |
| Availability of data, code and other materials | 27     | Report which of the following are publicly available and where they can be found: template data collection forms; data extracted from included studies; data used for all analyses; analytic code; any other materials used in the review. | SI Section 1.4; SI Section 8; Main text (Data availability); Main text (Code availability) |

Table 10: PRISMA Abstract Checklist
| **TITLE**                  | 1 | Identify the report as a systematic review. | Following a request by the Journal, systematic review does not appear in the title, but it is in the abstract and first page of the manuscript. |
|---------------------------|---|--------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| **BACKGROUND**            |   |                                            |                                                                                                                                  |
| Objectives                | 2 | Provide an explicit statement of the main objective(s) or question(s) the review addresses. | Yes                                                                                                                             |
| **METHODS**               |   |                                            |                                                                                                                                  |
| Eligibility criteria      | 3 | Specify the inclusion and exclusion criteria for the review. | Not in abstract due to word count limitations, but provided in the main text and supplementary information |
| Information sources       | 4 | Specify the information sources (e.g. databases, registers) used to identify studies and the date when each was last searched. | Not in abstract due to word count limitations, but provided in the main text and supplementary information |
| Risk of bias              | 5 | Specify the methods used to assess risk of bias in the included studies. | Not in abstract due to word count limitations, but provided in the main text and supplementary information |
| Synthesis of results      | 6 | Specify the methods used to present and synthesise results. | Yes                                                                                                                             |
| **RESULTS**               |   |                                            |                                                                                                                                  |
| Included studies          | 7 | Give the total number of included studies and participants and summarise relevant characteristics of studies. | Not in abstract due to word count limitations, but provided in the main text and supplementary information |
| Synthesis of results      | 8 | Present results for main outcomes, preferably indicating the number of included studies and participants for each. If meta-analysis was done, report the summary estimate and confidence/credible interval. If comparing groups, indicate the direction of the effect (i.e. which group is favoured). | Yes, though number of included studies, participants, and summary estimates are only provided in the main text and supplemental information |
| **DISCUSSION**            |   |                                            |                                                                                                                                  |
| Limitations of evidence   | 9 | Provide a brief summary of the limitations of the evidence included in the review (e.g. study risk of bias, inconsistency and imprecision). | Not in abstract due to word count limitations, but provided in the main text and supplementary information |
| Interpretation            | 10| Provide a general interpretation of the results and important implications. | Yes                                                                                                                             |
| **OTHER**                 |   |                                            |                                                                                                                                  |
| Funding                   | 11| Specify the primary source of funding for the review. | Not in abstract due to word count limitations, but provided in the main text |
| Registration              | 12| Provide the register name and registration number. | Not in abstract, but provided in the supplemental information |
### Table 11: GATHER Checklist

| Item # | Checklist item                                                                                                                                                                                                 | Reported on page #                                                                                   |
|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
|        | **Objectives and funding**                                                                                                                                                                                     |                                                                                                      |
| 1      | Define the indicator(s), populations (including age, sex, and geographic entities), and time period(s) for which estimates were made.                                                                  | SI Section 5.1 (Scope of the systematic literature review)                                            |
| 2      | List the funding sources for the work.                                                                                                                                                                       | Main text (Acknowledgements section)                                                                  |
|        | **Data Inputs**                                                                                                                                                                                                |                                                                                                      |
|        | For all data inputs from multiple sources that are synthesized as part of the study:                                                                                                                            |                                                                                                      |
| 3      | Describe how the data were identified and how the data were accessed.                                                                                                                                          | Main text (step 1 in methods); SI Section 1.5 (PRISMA 2020 flow diagrams)                             |
| 4      | Specify the inclusion and exclusion criteria. Identify all ad-hoc exclusions.                                                                                                                                  |                                                                                                      |
| 5      | Provide information on all included data sources and their main characteristics. For each data source used, report reference information or contact name/institution, population represented, data collection method, year(s) of data collection, sex and age range, diagnostic criteria or measurement method, and sample size, as relevant. | SI Section 2.1; http://vizhub.healthdata.org/burden-of-proof/ (data sources and citations for each risk-outcome pair can be downloaded using the “download” button on each risk curve page) |
| 6      | Identify and describe any categories of input data that have potentially important biases (e.g., based on characteristics listed in item 5).                                                                 | Main text (Modelling dose-response relative risk of smoking on selected health outcomes in Methods); SI Section 3, Section 8 |
|        | For data inputs that contribute to the analysis but were not synthesized as part of the study:                                                                                                                      |                                                                                                      |
| 7      | Describe and give sources for any other data inputs.                                                                                                                                                           | NA                                                                                                   |
|        | For all data inputs:                                                                                                                                                                                            |                                                                                                      |
| 8      | Provide all data inputs in a file format from which data can be efficiently extracted (e.g., a spreadsheet rather than a PDF), including all relevant meta-data listed in item 5. For any data inputs that cannot be shared because of ethical or legal reasons, such as third-party ownership, provide a contact name or the name of the institution that retains the right to the data. | http://vizhub.healthdata.org/burden-of-proof/ (data sources and citations for each risk-outcome pair can be downloaded using the “download” button on each risk curve page) |
|        | **Data analysis**                                                                                                                                                                                              |                                                                                                      |
| 9      | Provide a conceptual overview of the data analysis method. A diagram may be helpful.                                                                                                                             | Main text (Methods); SI Section 5.2 (Detailed methods for estimating the dose-response risk curves of the 36 health outcomes) |
| 10     | Provide a detailed description of all steps of the analysis, including mathematical formulae. This description should cover, as relevant, data cleaning, data pre-processing, data adjustments and weighting of data sources, and mathematical or statistical model(s). | Main text (Methods); SI Section 5.2 (Detailed methods for estimating the dose-response risk curves of the 36 health outcomes) |
| 11     | Describe how candidate models were evaluated and how the final model(s) were selected.                                                                                                                             | Main text (Model validation); SI Section 5.2, Section 4                                                |
| 12     | Provide the results of an evaluation of model performance, if done, as well as the results of any relevant sensitivity analysis.                                                                               | Main text (Model validation); SI Section 4, Section 5.2, Section 6                                     |
| 13     | Describe methods for calculating uncertainty of the estimates. State which sources of uncertainty were, and were not, accounted for in the uncertainty analysis.                                                   | Main text (Estimating the mean risk function and the burden of proof risk function in Methods)        |
|   |   |   |
|---|---|---|
|14 | State how analytic or statistical source code used to generate estimates can be accessed. | https://github.com/ihmeuw-msca/burden-of-proof |
|   | **Results and Discussion** |   |
|15 | Provide published estimates in a file format from which data can be efficiently extracted. | http://vizhub.healthdata.org/burden-of-proof/ |
|16 | Report a quantitative measure of the uncertainty of the estimates (e.g. uncertainty intervals). | UIs given in all main text figures and SI figures; SI Section 4; http://vizhub.healthdata.org/burden-of-proof/ |
|17 | Interpret results in light of existing evidence. If updating a previous set of estimates, describe the reasons for changes in estimates. | Main text (Discussion) |
|18 | Discuss limitations of the estimates. Include a discussion of any modelling assumptions or data limitations that affect interpretation of the estimates. | Main text (Limitations section in discussion) |