



The 1891-1920 birth cohort of Quebec chrysotile miners and millers: development from 1904 and mortality to 1992.

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Keywords: Aged
Air Pollutants, Occupational - adverse effects
Asbestos, Serpentine - adverse effects
Asbestosis - etiology - mortality
Cause of Death
Cohort Studies
Environmental monitoring
Epidemiological Monitoring
Humans
Male
Mesothelioma - etiology - mortality
Mining - statistics & numerical data
Neoplasms - etiology - mortality
Quebec - epidemiology

Abstract: This paper draws together the mortality experience for a cohort of some 11000 male Quebec Chrysotile miners and millers, reported at intervals since 1971 and now again updated. Of the 10918 men in the complete cohort, 1138 were lost to view, almost all never traced after employment of only a month or two before 1935; the other 9780 men were traced into 1992. Of these, 8009 (82%) are known to have died: 657 from lung cancer, 38 from mesothelioma, 1205 from other malignant disease, 108 from pneumoconiosis and 561 from other non-malignant respiratory diseases (excluding tuberculosis). After early fluctuations, SMRs (all causes) against Quebec rates have been reasonably steady since about 1945. For men first employed in Asbestos, mine or factory, they were very much what might have been expected for a blue collar population without any hazardous exposure. SMRs in the Thetford Mines area were almost 8% higher, but in line with anecdotal evidence concerning socio-economic status. At exposures below 300 (million particles per cubic foot) x years, (mpcf.y), equivalent to roughly 1000 (fibres/ml) x years-or, say, 10 years in the 1940s at 80 (fibres/ml)-findings were as follows. There were no discernible associations of degree of exposure and SMRs, whether for all causes of death or for all the specific cancer sites examined. The average SMRs were 1.07 (all causes), and 1.16, 0.93, 1.03 and 1.21, respectively, for gastric, other abdominal, laryngeal and lung cancer. Men whose exposures were less than 300 mpcf.y suffered almost one-half of the 146 deaths from pneumoconiosis or mesothelioma; the elimination of these two causes would have reduced these men's SMR (all causes) from 1.07 to approximately 1.06. Thus it is concluded from the viewpoint of mortality that exposure in this industry to less than 300 mpcf.y has been essentially innocuous, although there was a small risk of pneumoconiosis or mesothelioma. Higher exposures have, however, led to excesses, increasing with degree of exposure, of mortality from all causes, and from lung cancer and stomach cancer, but such exposures, of at least 300 mpcf.y, are several orders of magnitude more severe than any that have been seen for many years. The effects of cigarette smoking were much more deleterious than those of dust exposure, not only for lung cancer (the SMR for smokers of 20+ cigarettes a day being 4.6 times higher than that for non-smokers), but also for stomach cancer (2.0 times higher), laryngeal cancer (2.9 times higher), and-most importantly-for all causes (1.6 times higher).

Notes: Comment In: Ann Occup Hyg. 1997 Jan;41(1):3-129072948
Comment In: Ann Occup Hyg. 2001 Jun;45(4):329-35; author reply 336-811414250

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[The 1891-1920 birth cohort of Quebec chrysotile miners and millers: mortality 1976-88.](#)

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Source: Br J Ind Med. 1993 Dec;50(12):1073-81

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Language: English

Publication Type: Article

Keywords: Aged
Aged, 80 and over
Asbestos, Serpentine
Asbestosis - mortality
Cause of Death
Cohort Studies
Humans
Lung Neoplasms - mortality
Male
Mesothelioma - mortality
Middle Aged
Mining
Occupational Exposure
Quebec - epidemiology
Smoking - mortality
Time Factors

Abstract: A cohort of some 11,000 men born 1891-1920 and employed for at least one month in the chrysotile mines and mills of Quebec, was established in 1966 and has been followed ever since. Of the 5351 men surviving into 1976, only 16 could not be traced; 2508 were still alive in 1989, and 2827 had died; by the end of 1992 a further 698 were known to have died, giving an overall mortality of almost 80%. This paper presents the results of analysis of mortality for the period 1976 to 1988 inclusive, obtained by the subject-years method, with Quebec mortality for reference. In many respects the standardised mortality ratios (SMRs) 20 years or more after first employment were similar to those for the period 1951-75--namely, all causes 1.07 (1951-75, 1.09); heart disease 1.02 (1.04); cerebrovascular disease 1.06 (1.07); external causes 1.17 (1.17). The SMR for lung cancer, however, rose from 1.25 to 1.39 and deaths from mesothelioma increased from eight (10 before review) to 25; deaths from respiratory tuberculosis fell from 57 to five. Among men whose exposure by age 55 was at least 300 million particles per cubic foot x years (mpcf.y), the SMR (all causes) was elevated in the two main mining regions, Asbestos and Thetford Mines, and for the small factory in Asbestos; so were the SMRs for lung cancer, ischaemic heart disease, cerebrovascular disease, and respiratory disease other than pneumoconiosis. Except for lung cancer, however, there was little convincing evidence of gradients over four classes of exposure, divided at 30, 100, and 300 mpcf.y. Over seven narrower categories of exposure up to 300 mpcf.y the SMR for lung cancer fluctuated around 1.27 with no indication of trend, but increased steeply above that level. Mortality from pneumoconiosis was strongly related to exposure, and the trend for mesothelioma was not dissimilar. Mortality generally was related systematically to cigarette smoking habit, recorded in life from 99% of survivors into 1976; smokers of 20 or more cigarettes a day had the highest SMRs not only for lung cancer but also for all causes, cancer of the stomach, pancreas, and larynx, and ischaemic heart disease. For lung cancer SMRs increased fivefold with smoking, but the increase with dust exposure was comparatively slight for non-smokers, lower again for ex-smokers, and negligible for smokers of at least 20 cigarettes a day; thus the asbestos-smoking interaction was less than multiplicative. Of the 33 deaths from mesothelioma in the cohort to date, 28 were in miners and millers and five were in employees of a small asbestos products factory where commercial amphiboles had also been used. Preliminary analysis also suggest that the risk of mesothelioma was higher in the mines and mills at Thetford Mines than in those at Asbestos. More detailed studies of these differences and of exposure-response relations for lung cancer are under way.

Notes: Cites: Br J Ind Med. 1980 Feb;37(1):11-247370189
Cites: Br J Cancer. 1982 Jan;45(1):124-357059455
Cites: Biometrics. 1983 Mar;39(1):173-846871346
Cites: Br J Ind Med. 1987 Jun;44(6):396-4013606968
Cites: Ann NY Acad Sci. 1979;330:91-116294225
Cites: Br J Ind Med. 1992 Aug;49(8):566-751325180
Cites: Arch Environ Health. 1971 Jun;22(6):677-865574010
Cites: Arch Environ Health. 1972 Mar;24(3):189-975059627
Cites: Br J Ind Med. 1991 Aug;48(8):543-71878311

PubMed ID: 8280638 [View in PubMed](#) 

[The 1978-79 INCO workers' strike in the Sudbury basin and its impact on alcohol consumption and drinking patterns.](#)

<https://arctichealth.org/en/permalink/ahliterature243374>

Author: N. Giesbrecht
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Source: J Public Health Policy. 1982 Mar;3(1):22-38

Date: Mar-1982

Language: English

Publication Type: Article

Keywords: Alcohol Drinking
Behavior
Humans
Income
Mining
Ontario
Stress, Psychological
Strikes, Employee

PubMed ID: 7085867 [View in PubMed](#) 

[A case of Caplan's syndrome in a miner]

<https://arctichealth.org/en/permalink/ahliterature14513>

Author: Iu L Demidov
G A Bondarenko
A M Aleksanova
A F Denisenko
N A Salamatina

Source: Ter Arkh. 1990;62(1):115-6

Date: 1990

Language: Russian

Publication Type: Article

Keywords: Caplan's Syndrome - diagnosis - physiopathology
Coal Mining
Humans
Lung - physiopathology
Male
Middle Aged
Pneumoconiosis - diagnosis
Ukraine

PubMed ID: 2333604 [View in PubMed](#) 

[A case of the development of late silicosis against a background of rheumatoid arthritis]

<https://arctichealth.org/en/permalink/ahliterature14794>

Author: N V Sidorova
L V Okulik

Source: Gig Tr Prof Zabol. 1973 Nov;17(11):47-8

Date: Nov-1973

Language: Russian

Publication Type: Article

Keywords: Adult
Arthritis, Rheumatoid - complications
Coal Mining
Humans
Male
Silicosis - complications
Time Factors
Ukraine

PubMed ID: 4769313 [View in PubMed](#) 

[Accidental injury in industry. Traumatological and sociomedical aspects].

<https://arctichealth.org/en/permalink/ahliterature254867>

Author: O P Grüner
Source: Tidsskr Nor Laegeforen. 1973 Feb 28;93(6):382-6
Date: Feb-28-1973
Language: Norwegian
Publication Type: Article
Keywords: Accidents
Accidents, Occupational - prevention & control
Adult
Age Factors
Aged
Agriculture
Arm Injuries - etiology
Craniocerebral Trauma - etiology
Female
Humans
Joints - injuries
Leg Injuries - etiology
Male
Middle Aged
Mining
Muscles - injuries
Norway
PubMed ID: 4698023 [View in PubMed](#) 

[Accumulation of heavy metals in biologic materials of mining workers and of nearby population].

<https://arctichealth.org/en/permalink/ahliterature176713>

Author: M A Mukasheva

Source: Med Tr Prom Ekol. 2004;(11):38-40

Date: 2004

Language: Russian

Publication Type: Article

Keywords: Adult
Catchment Area (Health)
Environmental monitoring
Epidemiological Monitoring
Hair - chemistry
Humans
Metals, Heavy - analysis
Middle Aged
Mining
Occupational Diseases - epidemiology - metabolism
Russia - epidemiology

Abstract: The article contains results concerning spectral analysis of biologic materials (blood and hair) for heavy metals content. These results helped to reveal health risk factors for workers engaged into chromium ores extraction and for nearby residents.

PubMed ID: 15636126 [View in PubMed](#) 

[Accumulation of radionuclides in food chains of the Yenisei River after the nuclear power plant shutdown at the mining-and-chemical enterprise].

<https://arctichealth.org/en/permalink/ahliterature261756>

Author: T A Zotina
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Source: Radiats Biol Radioecol. 2014 Jul-Aug;54(4):405-14

Language: Russian

Publication Type: Article

Keywords: Animals
Biota
Chemical Industry
Fishes - metabolism
Food chain
Industrial Waste - analysis
Mining
Muscle, Skeletal - radionuclide imaging
Nuclear Power Plants
Radiation Monitoring - methods
Radioisotopes - analysis - pharmacokinetics
Rivers - chemistry
Seasons
Siberia
Water Pollutants, Radioactive - analysis - pharmacokinetics

Abstract: Accumulation of artificial and natural radionuclides in the chains of food webs leading to non-predatory and piscivorous fish of the Yenisei River was investigated during one year before and three years after the shutdown of a nuclear power plant at the Mining-and-Chemical Combine (2009-2012). The activity of artificial radionuclides in the samples of biota of the Yenisei River (aquatic moss, gammarids, dace, grayling, pike) was estimated. The concentration of radionuclides with induced activity (^{51}Cr , ^{54}Mn , ^{58}Co , ^{60}Co , ^{65}Zn , ^{141}Ce , ^{152}Eu , ^{154}Eu , ^{239}Np) decreased in the biomass of biota after the shutdown of the nuclear power plant; the concentration of ^{137}Cs did not. Analysis of the accumulation factors (C(F)) allows us to expect the effective accumulation of ^{137}Cs in the terminal level of the food web of the Yenisei River--pike (C(F) = 2.0-9.4), i.e. biomagnifications of radiocesium. Accumulation of artificial, radionuclides in non-predatory fish from gammarids was not effective (C(F)

PubMed ID: 25775829 [View in PubMed](#) 

Accuracy of Canadian health administrative databases in identifying patients with rheumatoid arthritis: a validation study using the medical records of rheumatologists.

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Source: Arthritis Care Res (Hoboken). 2013 Oct;65(10):1582-91

Date: Oct-2013

Language: English

Publication Type: Article

Keywords: Adult
Aged
Algorithms
Arthritis, Rheumatoid - diagnosis - epidemiology
Data Mining - statistics & numerical data
Databases, Factual - statistics & numerical data
Drug Prescriptions - statistics & numerical data
Fees and Charges - statistics & numerical data
Female
Hospitalization - statistics & numerical data
Humans
Male
Medical Records Systems, Computerized - statistics & numerical data
Middle Aged
Ontario - epidemiology
Reproducibility of Results
Retrospective Studies
Rheumatology - statistics & numerical data
Single-Payer System - statistics & numerical data

Abstract:

Health administrative data can be a valuable tool for disease surveillance and research. Few studies have rigorously evaluated the accuracy of administrative databases for identifying rheumatoid arthritis (RA) patients. Our aim was to validate administrative data algorithms to identify RA patients in Ontario, Canada.

We performed a retrospective review of a random sample of 450 patients from 18 rheumatology clinics. Using rheumatologist-reported diagnosis as the reference standard, we tested and validated different combinations of physician billing, hospitalization, and pharmacy data.

One hundred forty-nine rheumatology patients were classified as having RA and 301 were classified as not having RA based on our reference standard definition (study RA prevalence 33%). Overall, algorithms that included physician billings had excellent sensitivity (range 94-100%). Specificity and positive predictive value (PPV) were modest to excellent and increased when algorithms included multiple physician claims or specialist claims. The addition of RA medications did not significantly improve algorithm performance. The algorithm of "(1 hospitalization RA code ever) OR (3 physician RA diagnosis codes [claims] with =1 by a specialist in a 2-year period)" had a sensitivity of 97%, specificity of 85%, PPV of 76%, and negative predictive value of 98%. Most RA patients (84%) had an RA diagnosis code present in the administrative data within ± 1 year of a rheumatologist's documented diagnosis date.

We demonstrated that administrative data can be used to identify RA patients with a high degree of accuracy. RA diagnosis date and disease duration are fairly well estimated from administrative data in jurisdictions of universal health care insurance.

PubMed ID:

23592598 [View in PubMed](#) 

[A comparative analysis of different approaches to identifying cardiovascular diseases in coal miners during medical selection]

<https://arctichealth.org/en/permalink/ahliterature49975>

Author: L N Sizonenko
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Source: Lik Sprava. 1999 Mar;(2):130-5

Date: Mar-1999

Language: Russian

Publication Type: Article

Keywords: Adult
Cardiovascular Diseases - diagnosis
Coal Mining
Comparative Study
Echocardiography
Electrocardiography
English Abstract
Exercise Test
Humans
Male
Middle Aged
Occupational Diseases - diagnosis
Personnel Selection - methods
Risk factors
Ukraine
Work Capacity Evaluation

Abstract: An expert evaluation of identifiability of cardiovascular diseases was carried out together with a clinical and functional examination of certain groups of miners of basic underground occupations at different ages and lengths of service, that showed a high incidence of cardiovascular diseases along with a low informative value of methodical approaches, indices and criteria used for their diagnosis in conducting preliminary and periodic health check-ups. To improve the quality of diagnosis of diseases of the circulatory system it is necessary that standardized methods of investigation should be employed together with consistent indices of high informative value as well as a purposive training of physicians.

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