

Asbestosis Surveillance in British Columbia, 1992-2004

Introduction

- Asbestosis is a progressive fibrotic lung disease caused by inhalation of asbestos fibres. There is no cure. Surveillance of asbestosis as an occupational disease has generally relied on workers' compensation records or death certificates, which may underestimate the incidence, prevalence and burden of asbestosis in Canada.
- The purpose of this project is to use multiple health databases to estimate the incidence of asbestosis in the population of British Columbia (BC) over time and by demographic, occupational and geographic characteristics, and to compare different data sources for occupational disease surveillance of asbestosis.

Methods

Population

The study population, drawn from the provincial health registry, included all BC residents aged 15 years and older from 1992 to 2004.

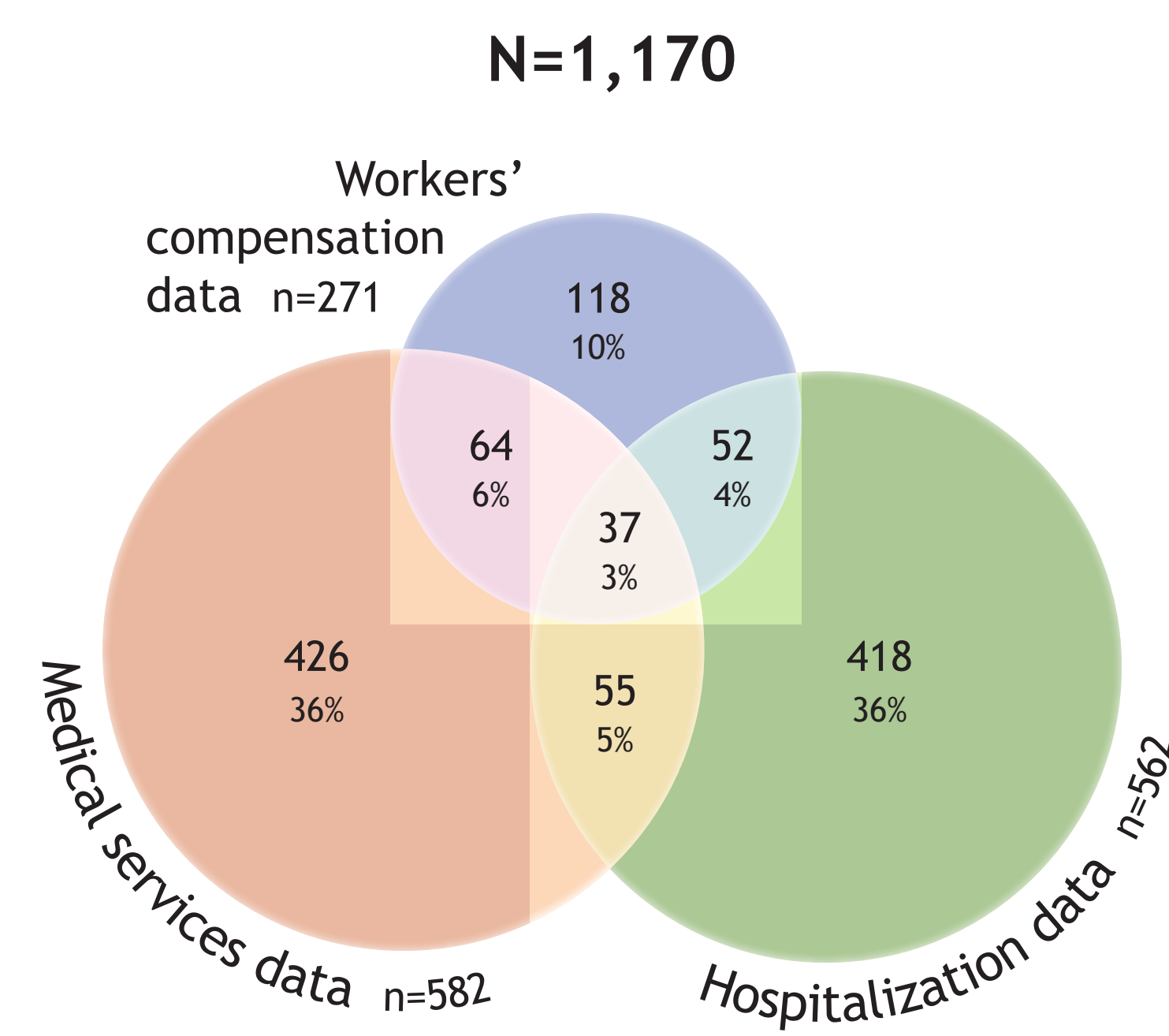
Health Data Sources

- All accepted workers' compensation claims in BC including time-loss, long-term disability and fatalities.
- All in-patient hospitalizations (at least one overnight stay) discharged in BC.
- All outpatient visits for medical services to general practitioners or specialists in BC.

Case definition

International Classification of Disease codes (ICD-9=501 and ICD-10=J61) identified the first occurrence of asbestosis for BC residents across the three data sources as well as the first occurrence within each data source as defined by a workers' compensation claim, a hospitalization, or two consecutive outpatient medical services visits within 12 months.

Data Sources for Identifying New Asbestosis Cases



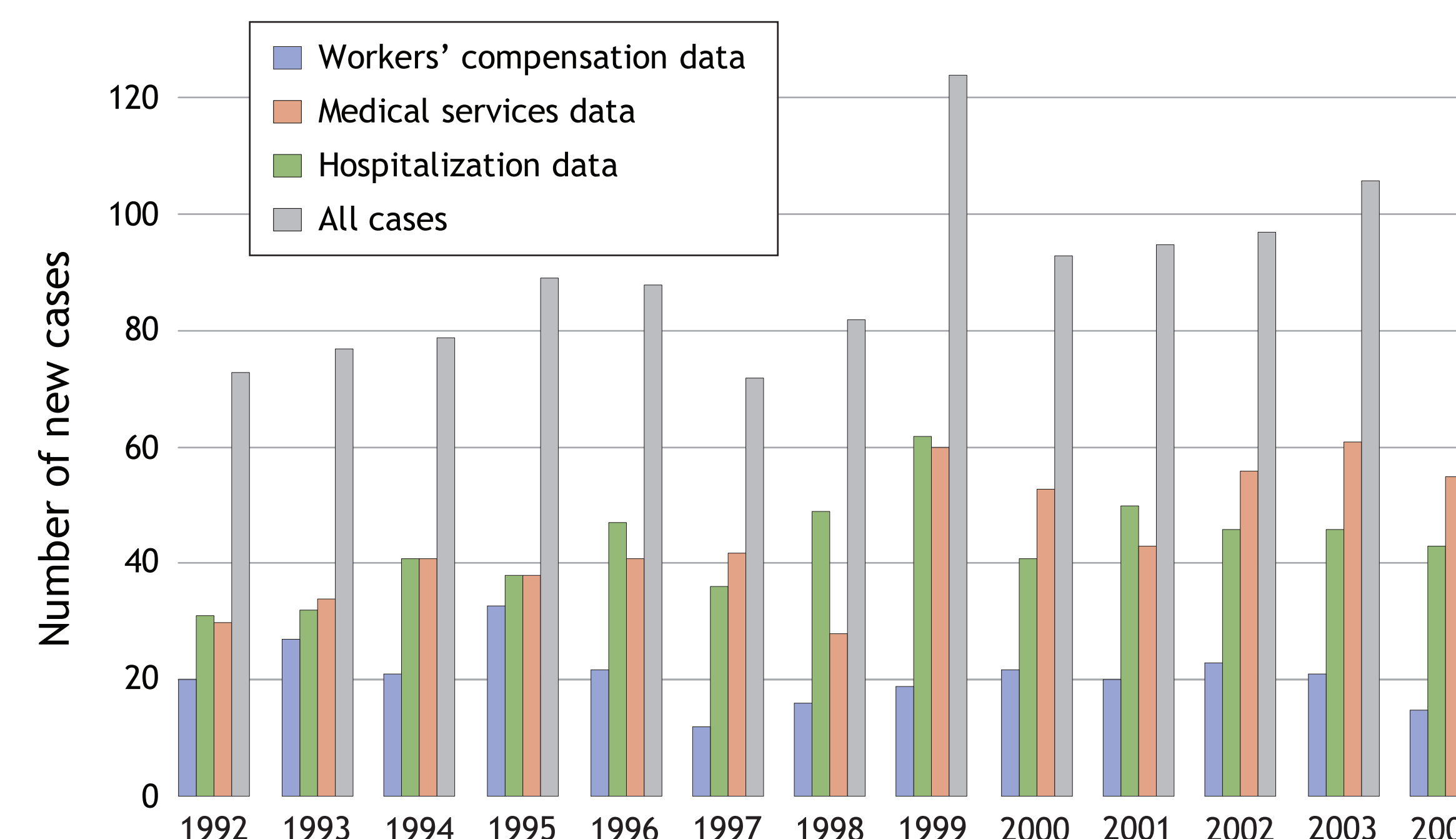
Geographic Variation in Asbestosis Incidence Rates



Key Messages

- Single data sources may not be effective for surveillance of diseases such as asbestosis, and may lead to serious underestimation of burden of occupational disease in Canada.
- Workers' compensation data in combination with hospitalization and medical service data provides a more complete surveillance picture.
- Increased awareness of asbestosis as an occupational disease is needed among workers, worker organizations and clinicians.

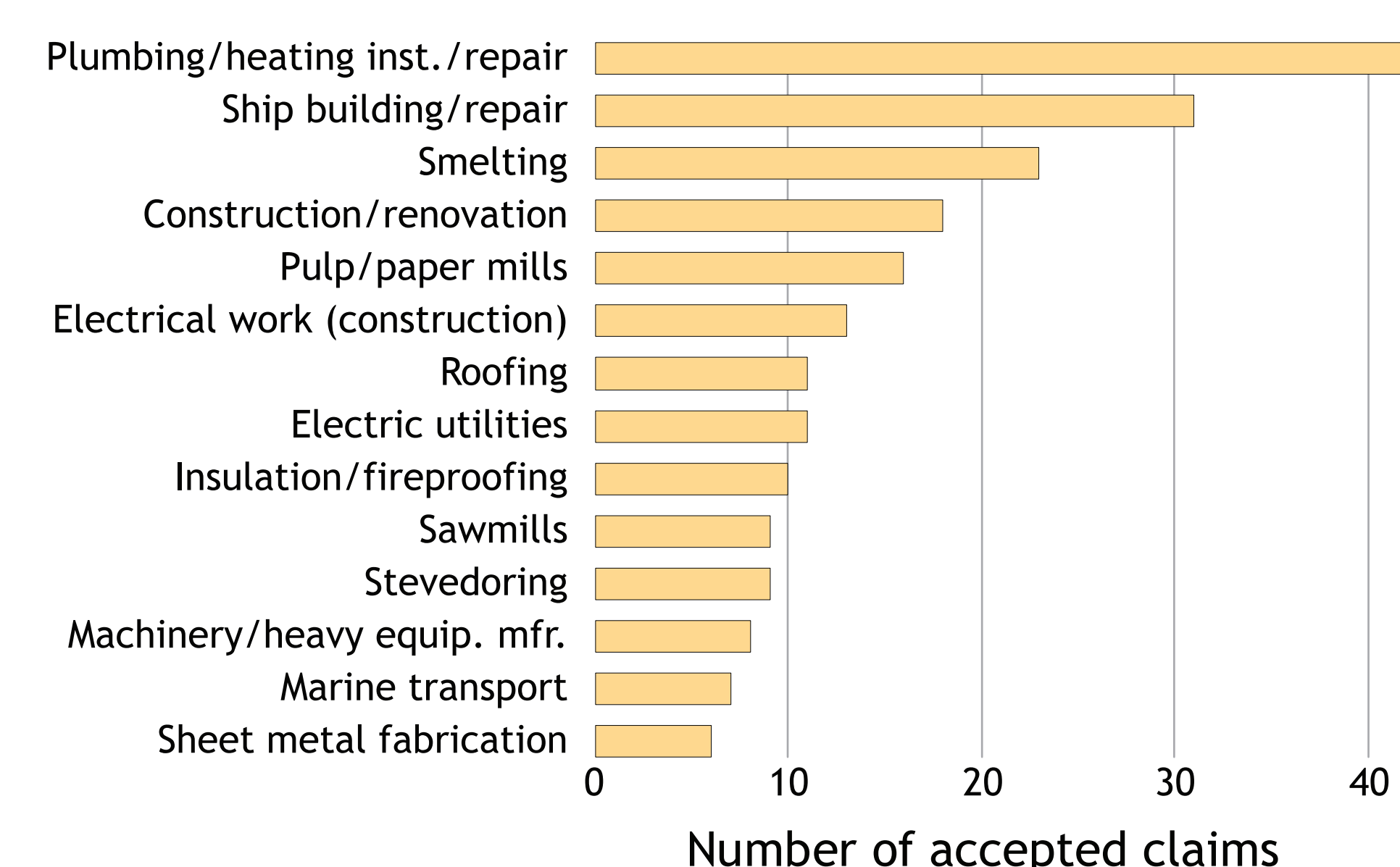
Number of New Asbestosis Cases by Data Source



Demographic Characteristics for New Asbestosis Cases by Data Source

Data Source	Number (% male)	Men Mean age (SD)	Women Mean age (SD)
Workers' compensation data	271 (99.6%)	66.4 (9.1)	Small sample
Hospitalization data	562 (97.9%)	72.7 (9.2)	80.3 (6.3)
Medical services data	582 (93.5%)	65.7 (9.7)	65.1 (12.9)
All cases	1,170 (95.8%)	68.9 (10.2)	68.2 (13.3)

Accepted Claims For Asbestosis Compensation by Industry



For calculating incidence during the follow-up period, individuals with a workers' compensation claim or a hospitalization with an asbestosis diagnosis between 1985 and 1991 were excluded from the analysis, based on the availability of retrospective data.

Results

- A total of 1,170 new asbestosis cases were identified from 1992 to 2004 using the three data sources. The majority of cases were men (96%) with a mean age of 69 years (69 for men, 68 for women). The cumulative incidence rate for adults aged ≥ 15 years was 2.8 asbestosis cases per 100,000 person-years (5.5 for men, 0.2 for women).
- Only one-quarter of all asbestosis cases were identified from the workers' compensation records. A further one-third of cases were found solely in the hospitalization database and another third solely in the medical services databases. Only 3% were recorded in all three data sources.
- Single data sources showed different time trends in the annual incidence rate. The rate tended to decline based solely on workers' compensation cases ($\beta = -11.0$, $p = 0.055$) but increased significantly based on the medical services cases ($\beta = 8.6$, $p = 0.025$).
- The most common industries of exposure for workers' compensation asbestosis claims were related to construction, as well as ship building, smelting, and pulp and paper.
- Only 23% of all identified asbestosis cases had a workers' compensation claim. Workers' compensation claim rates for asbestosis remained stable or dropped relative to an increase in the medical service rate of asbestosis over the same time period.