## Asbestos

### 63 AN ASBESTOS EXPOSURE DATABASE FOR ASBESTOS MINE/MILL WORKERS (1976–1994)

Tina Murphy,[1] John Oudyk,[2] Paul Demers,[3] Stephen Bornstein[1] [1]*Memorial University of Newfoundland, St Johns, Canada;* [2]*Ontario Health Clinics, Sudbury, Canada;* [3]*Occupational Cancer Research Centre, Toronto, Canada*

**Objectives** As part of the creation of the Baie Verte, Newfoundland Asbestos Miners' Registry, the results from asbestos air samples collected at the Baie Verte open pit asbestos mine and mill between the years 1976 and 1994 are described. Patterns of variance are explored within- and between-sampling units (persons, shifts, jobs within departments).

**Methods** Over 6000 personal and area sampling data were extracted from monthly lists of routine air sampling results taken at the asbestos mine and mill between the years of 1976 and 1994. Between 1991 and 1994 individual sampling results, including raw fibre counts, were available for over 250 of these personal samples. In addition, data for almost 1000 personal samples were extracted from an intensive study carried out in 1981. The data were evaluated for log-normal distribution fit and descriptive statistics. For the 1991–1994 data a mixed model analysis was performed to determine the between- and within-worker proportion of the total variance. The data from the intensive 1981 sampling campaign was used to ascertain the within- and between-shift variance.

**Results** The distribution for most job categories could adequately be described as fitting a log-normal distribution. For almost 100 different job codes, mean exposures ranged from 0.1 to 5 f/ml (average 0.5 f/ml). Variability within jobs often exceeded a geometric SD of 2.5. The between worker portion of the total variance was usually negligible. Within-shift variation accounted for more than 75% of the total variation in fibre-counts. Generally, a downward trend over time was found with a slight increase in the last few years before shut down.