

Silicosis Surveillance in New Mexico

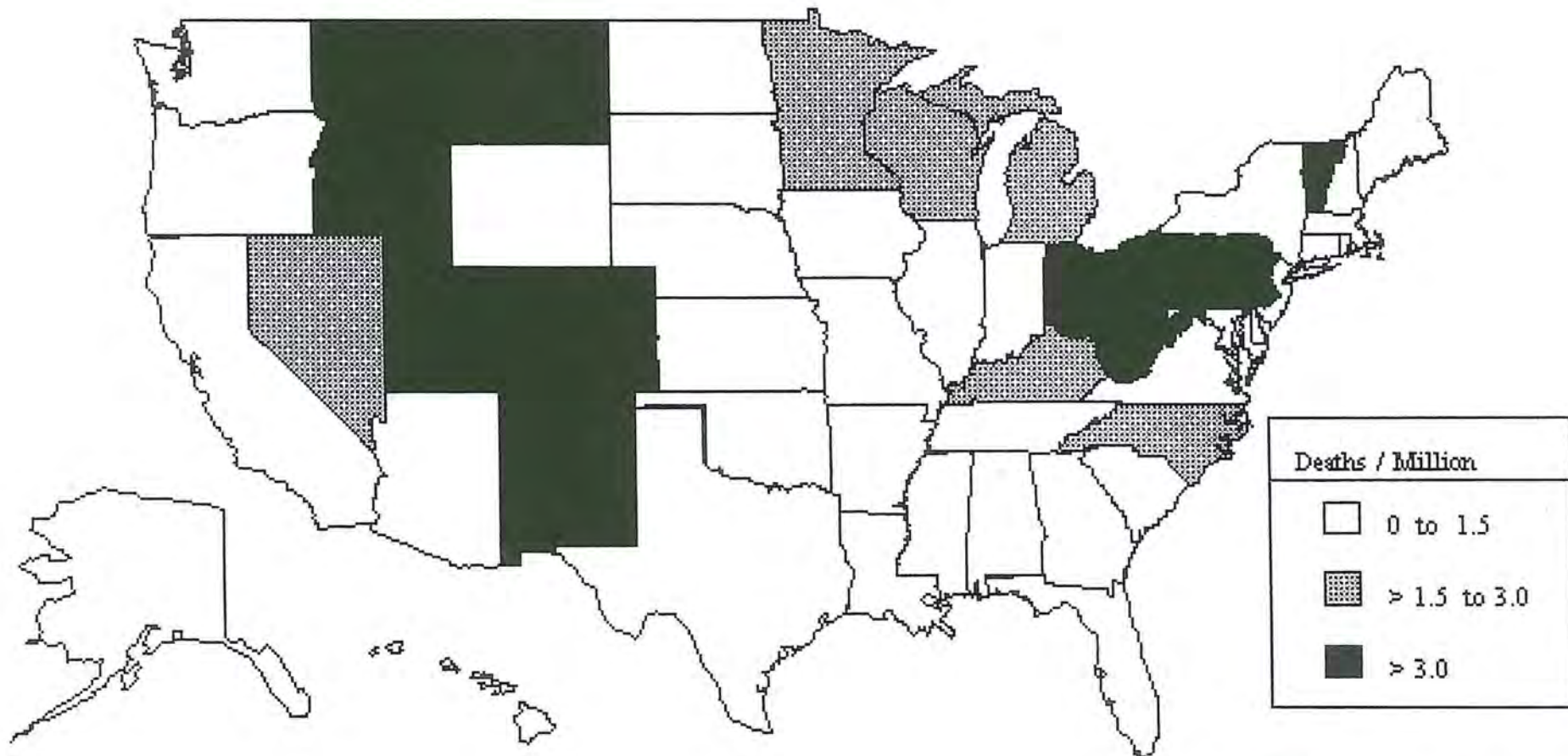
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Ronald E. Voorhees, MD, MPH

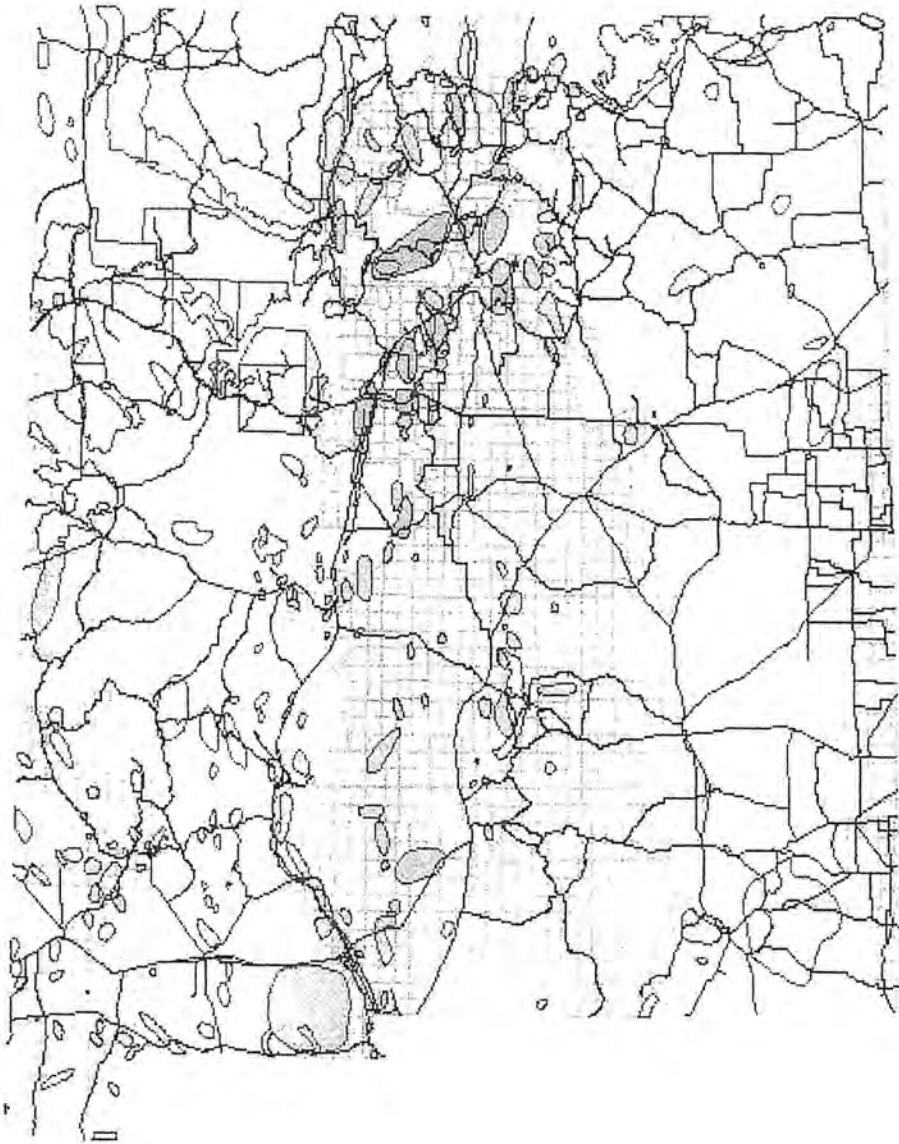
**New Mexico Department of Health
Public Health Division, Office of Epidemiology
CSTE - Hartford, CN - June 2003**

Silicosis: Crude mortality rates by state, U.S. residents age 15 and over, 1987-1996



Historical Overview of Mining in New Mexico

New Mexico Mining Districts

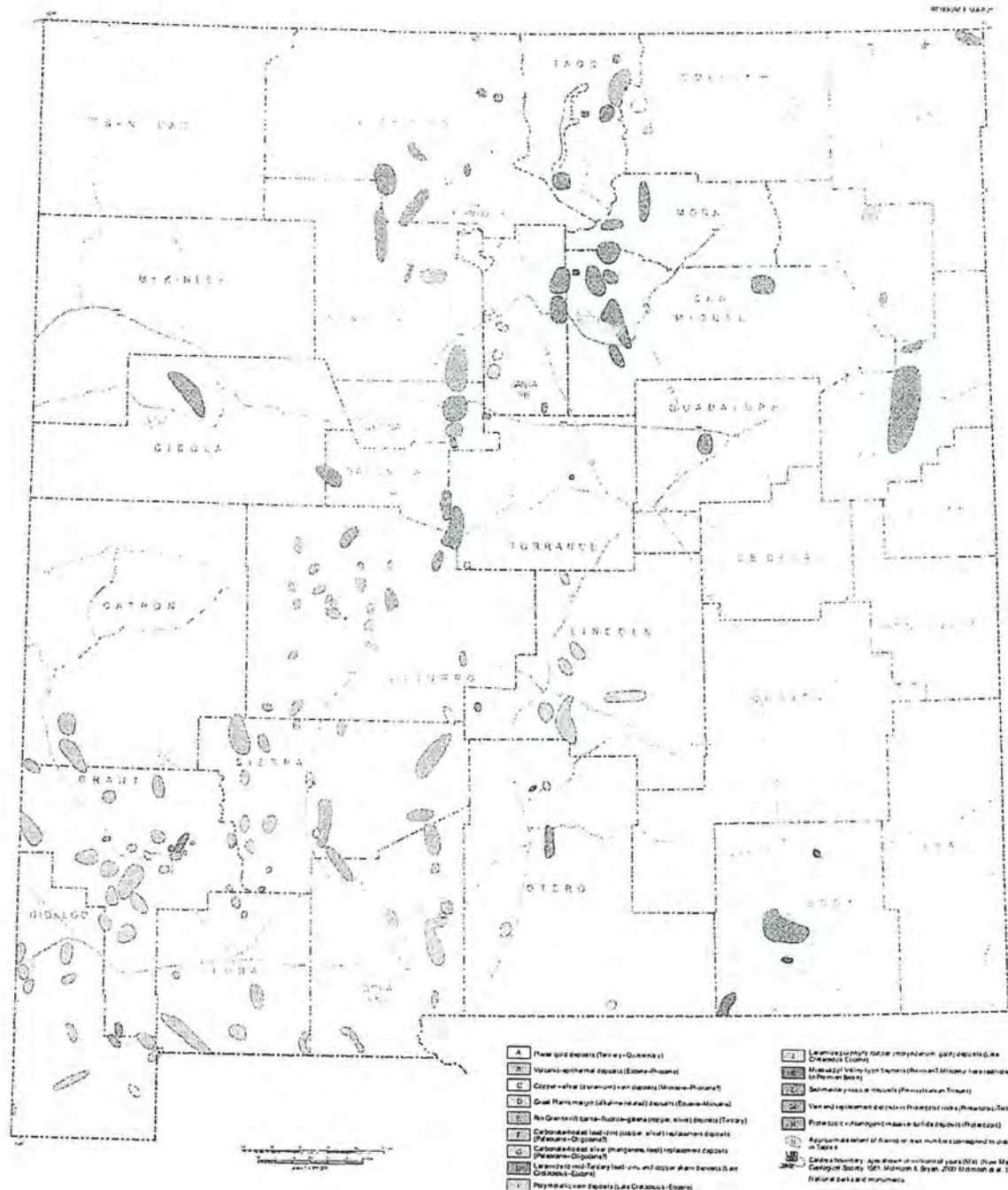


- ☐ Coal Fields
- ☐ Metal Mining
- ☐ Uranium
- ☐ Industrial Minerals
- ☐ Coal & Uranium

NM Bureau of Mines

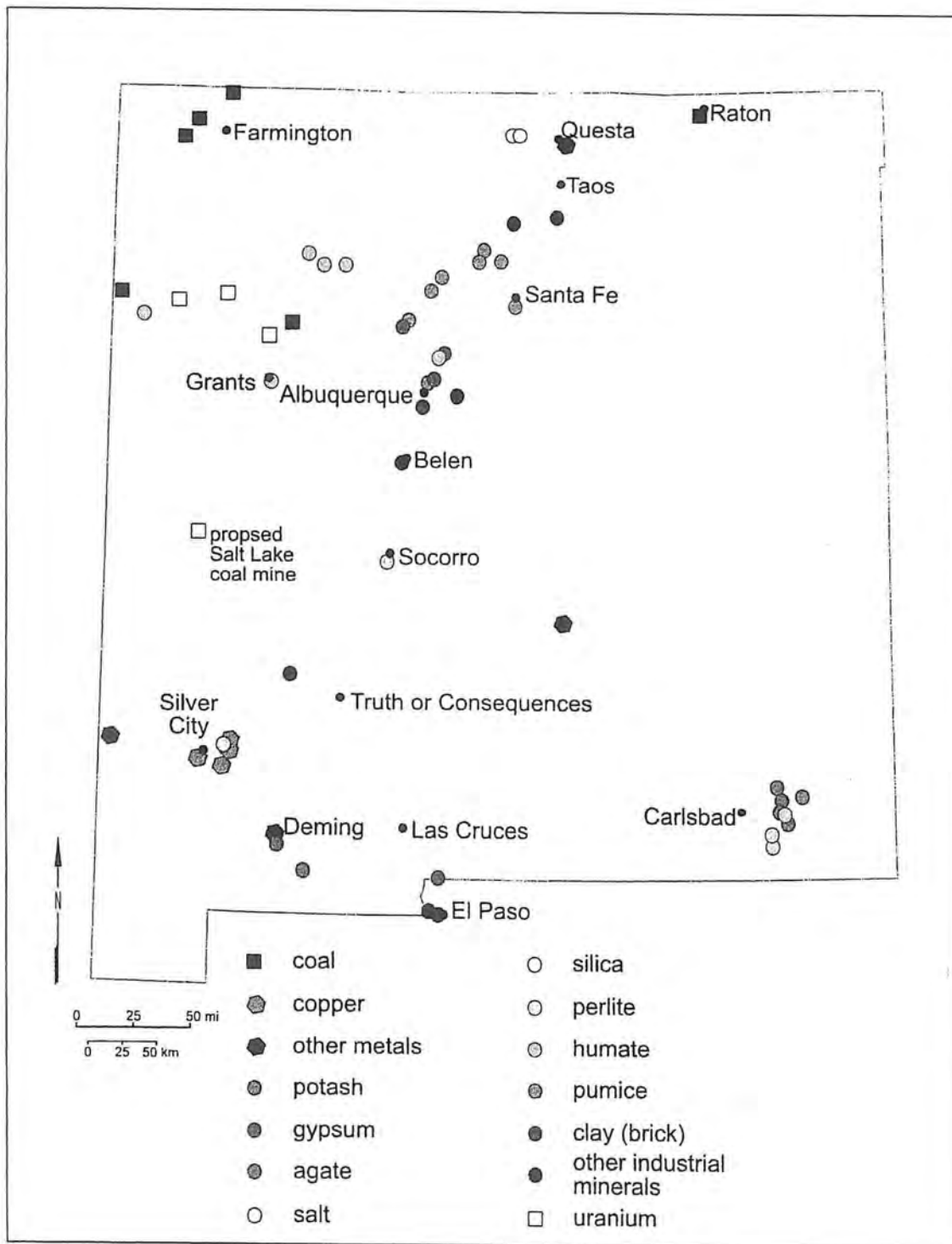
New Mexico Gold and Silver Mining Districts - Active and Inactive 2003

NM Bureau of Mines



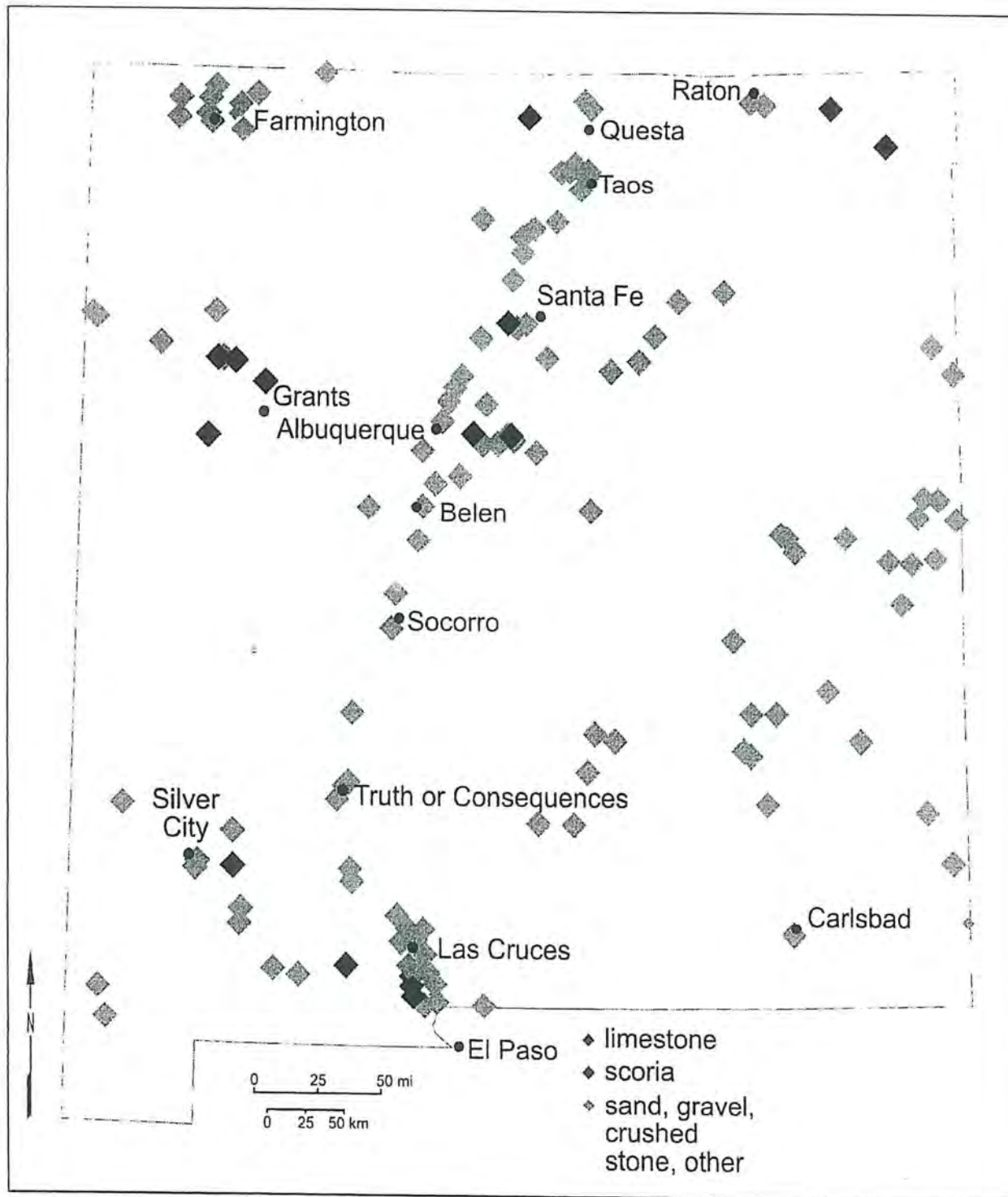
New Mexico Active Mines 2003

NM Bureau of Mines

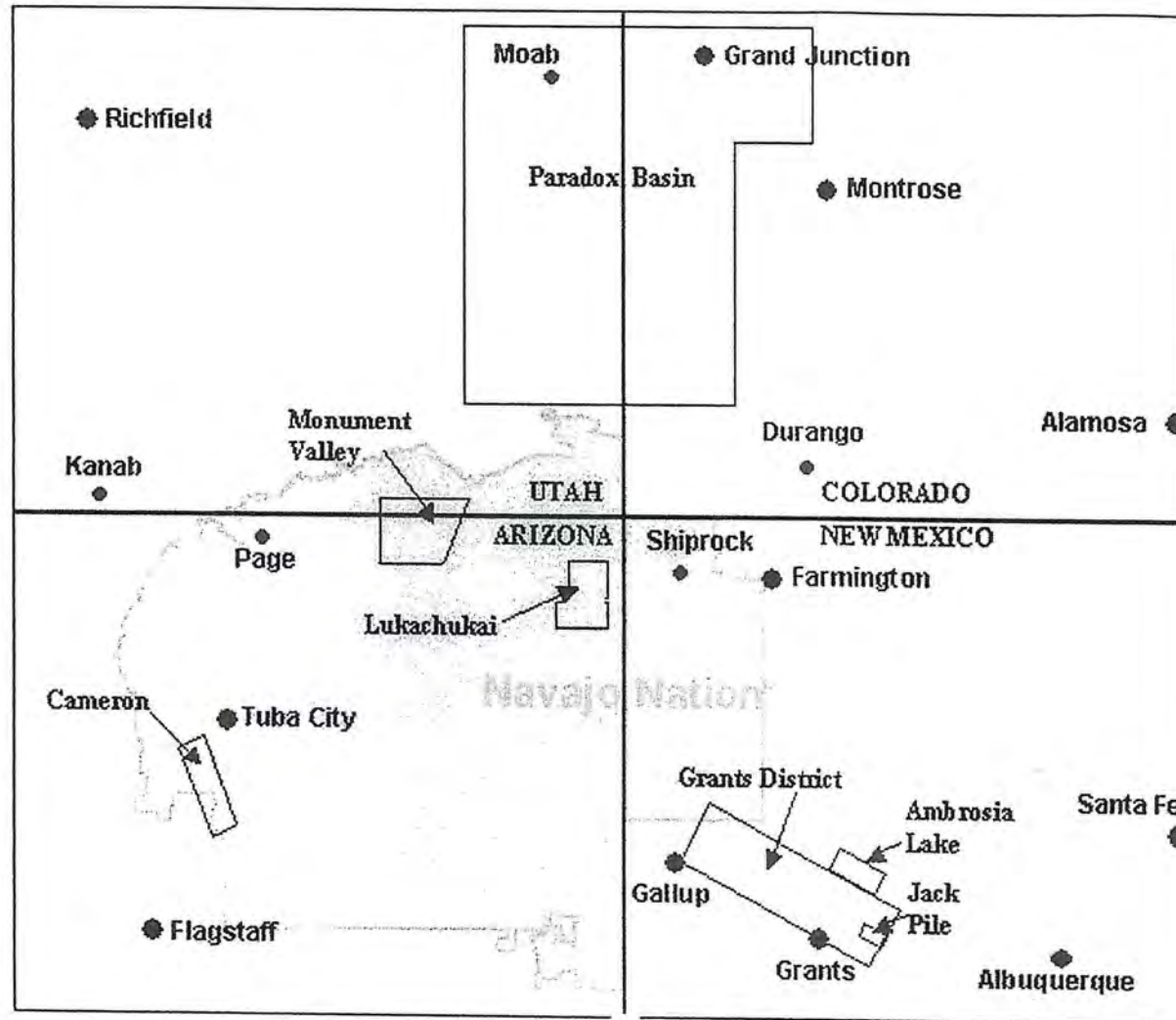


New Mexico Active Gravel Pits 2003

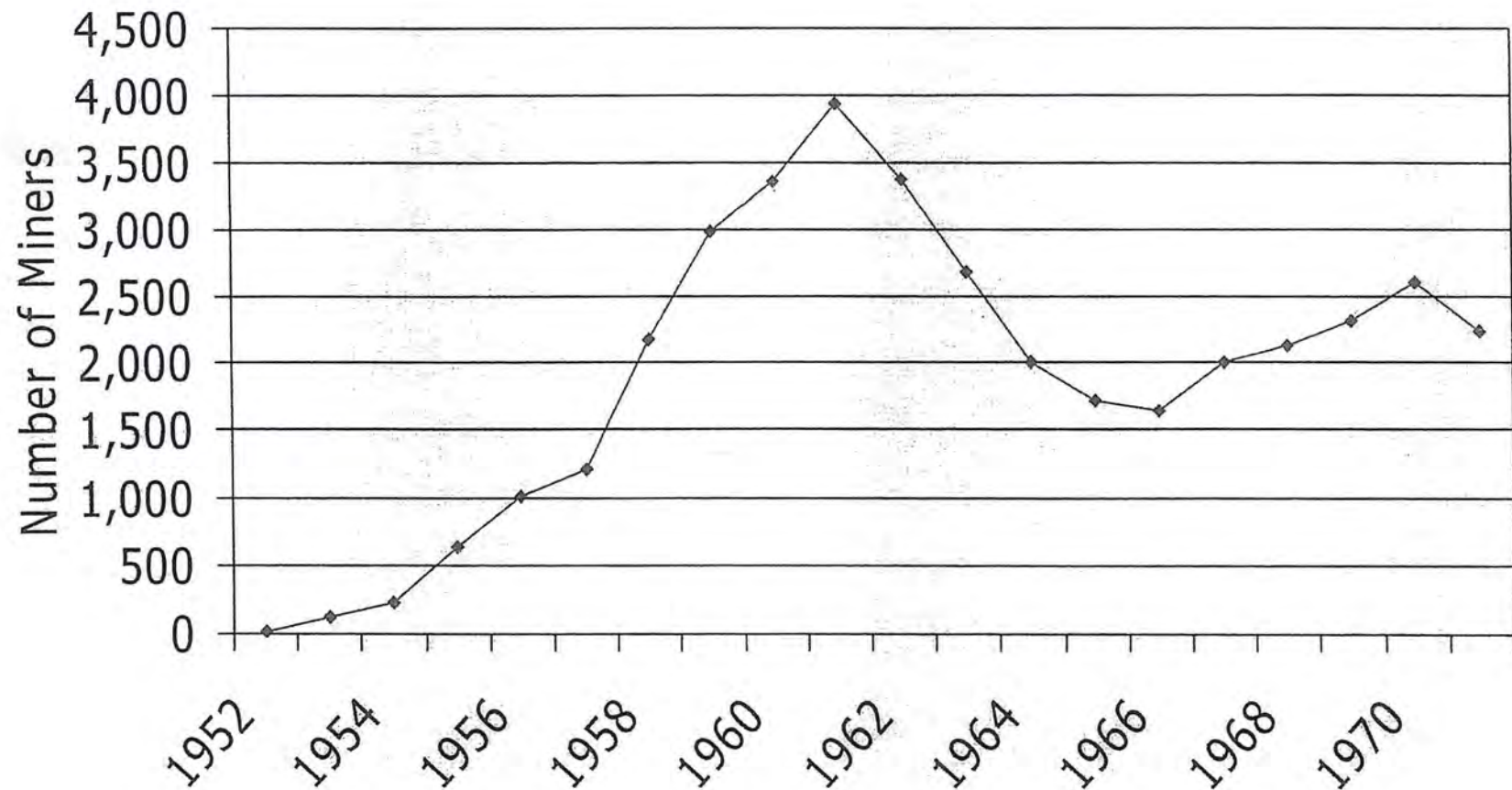
NM Bureau of Mines



Uranium Mining Districts in the Four Corners Area



Uranium Mining Employment New Mexico, 1952-1971



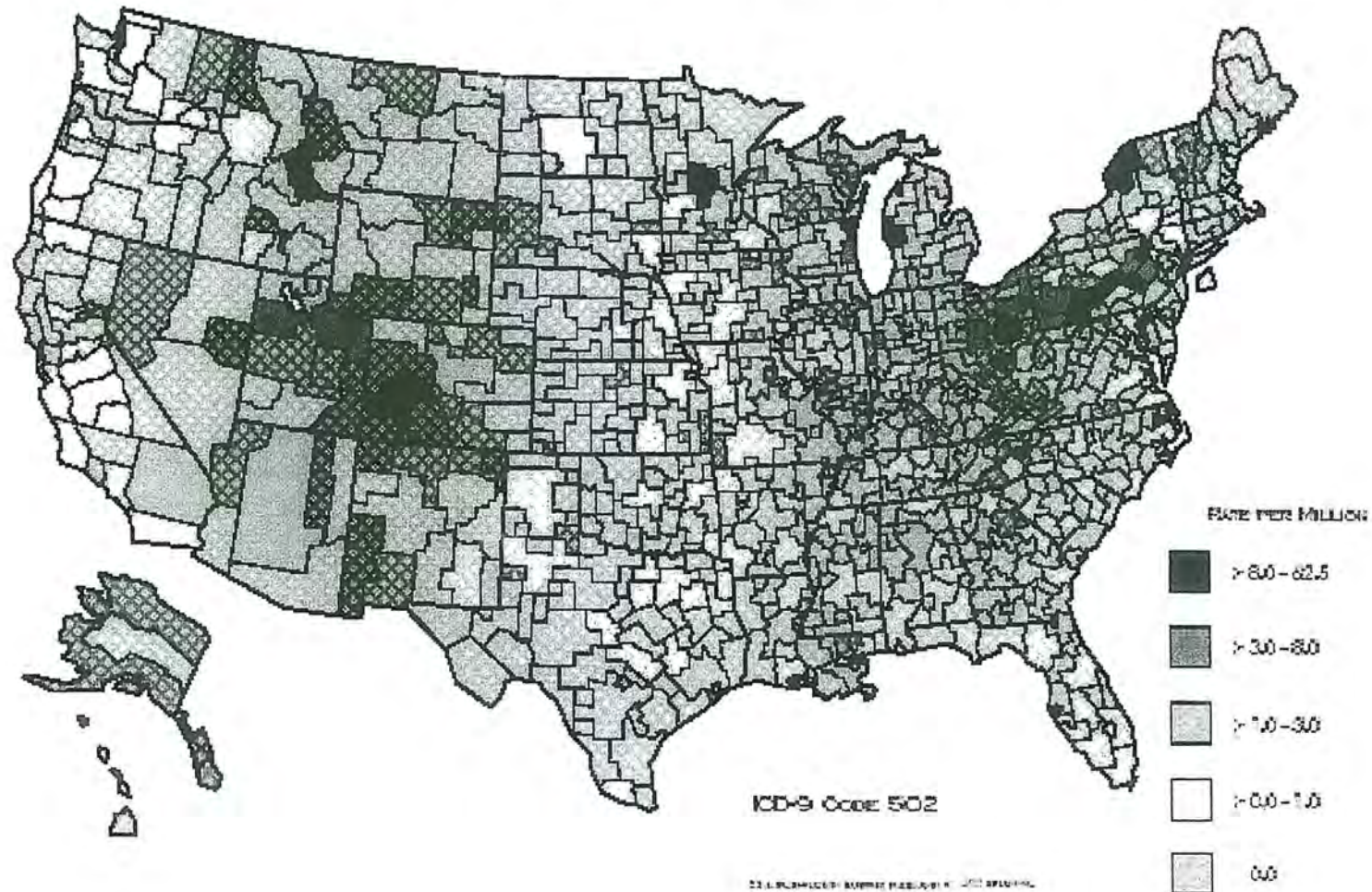
New Mexico State Mine Inspector's Annual Reports, compiled by Phil Kozushko, NM Bureau of Mine Inspection.

Silicosis Surveillance in New Mexico

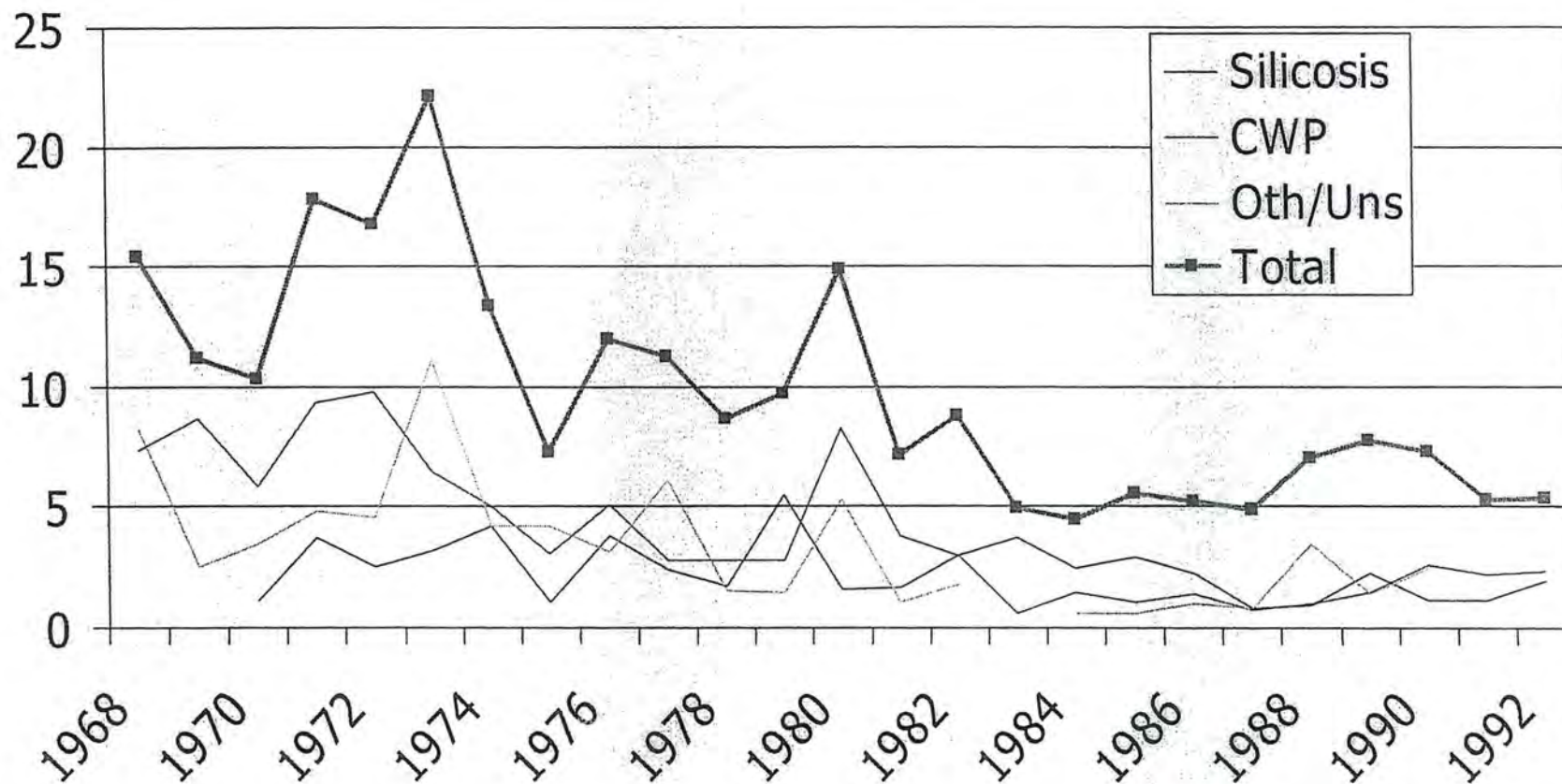
- **Identify and compare sources of data on the occurrence of silicosis in New Mexico:**
 - **Mortality:**
 - New Mexico Vital Records
 - **Occurrence:**
 - New Mexico Miner's Outreach Program
 - New Mexico Worker's Compensation Program
 - Miner's Safety and Health Administration



U.S. Residents 15 years of age and older, 1982-1993



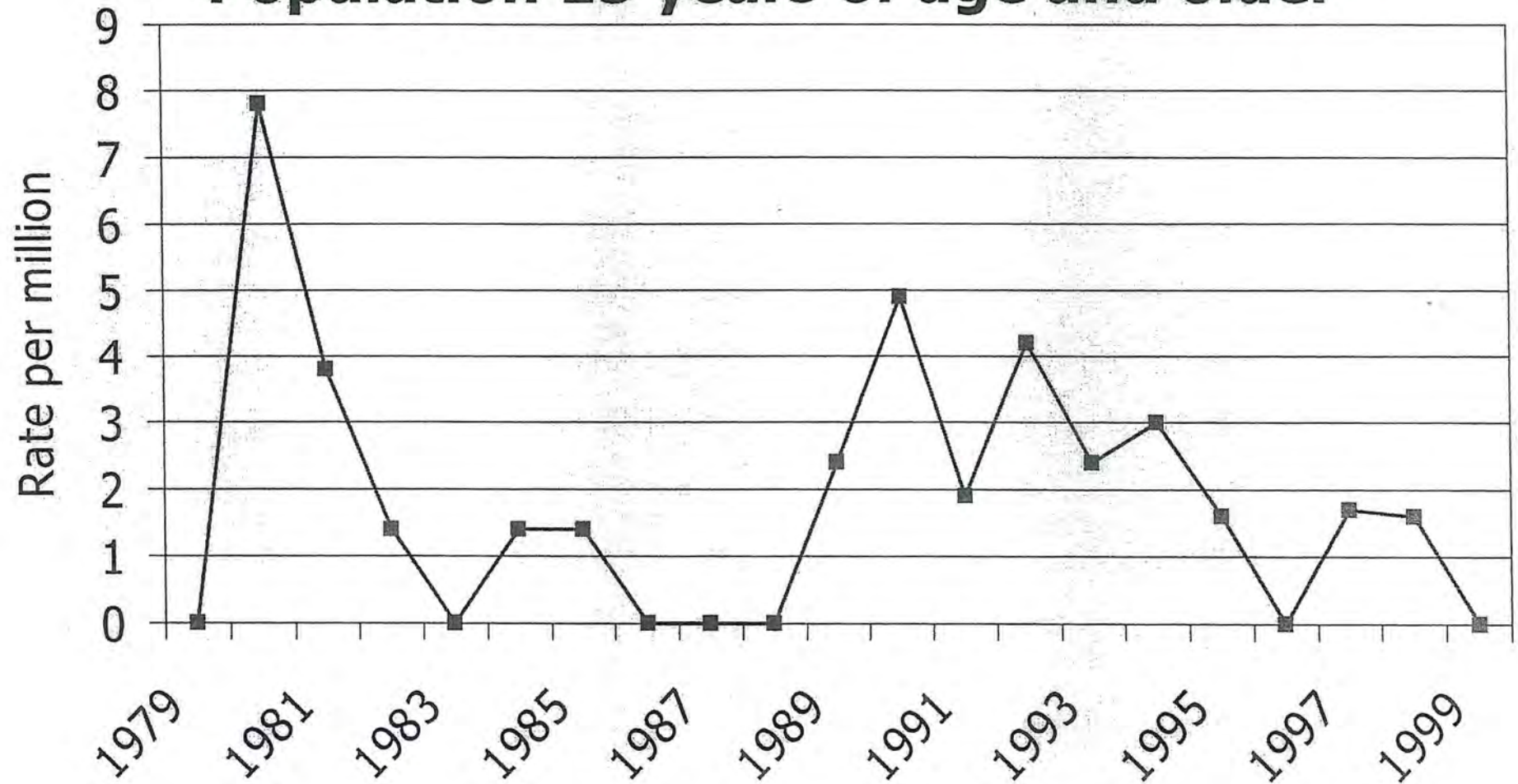
Pneumoconiosis in New Mexico 1968-1992



Database Analysis

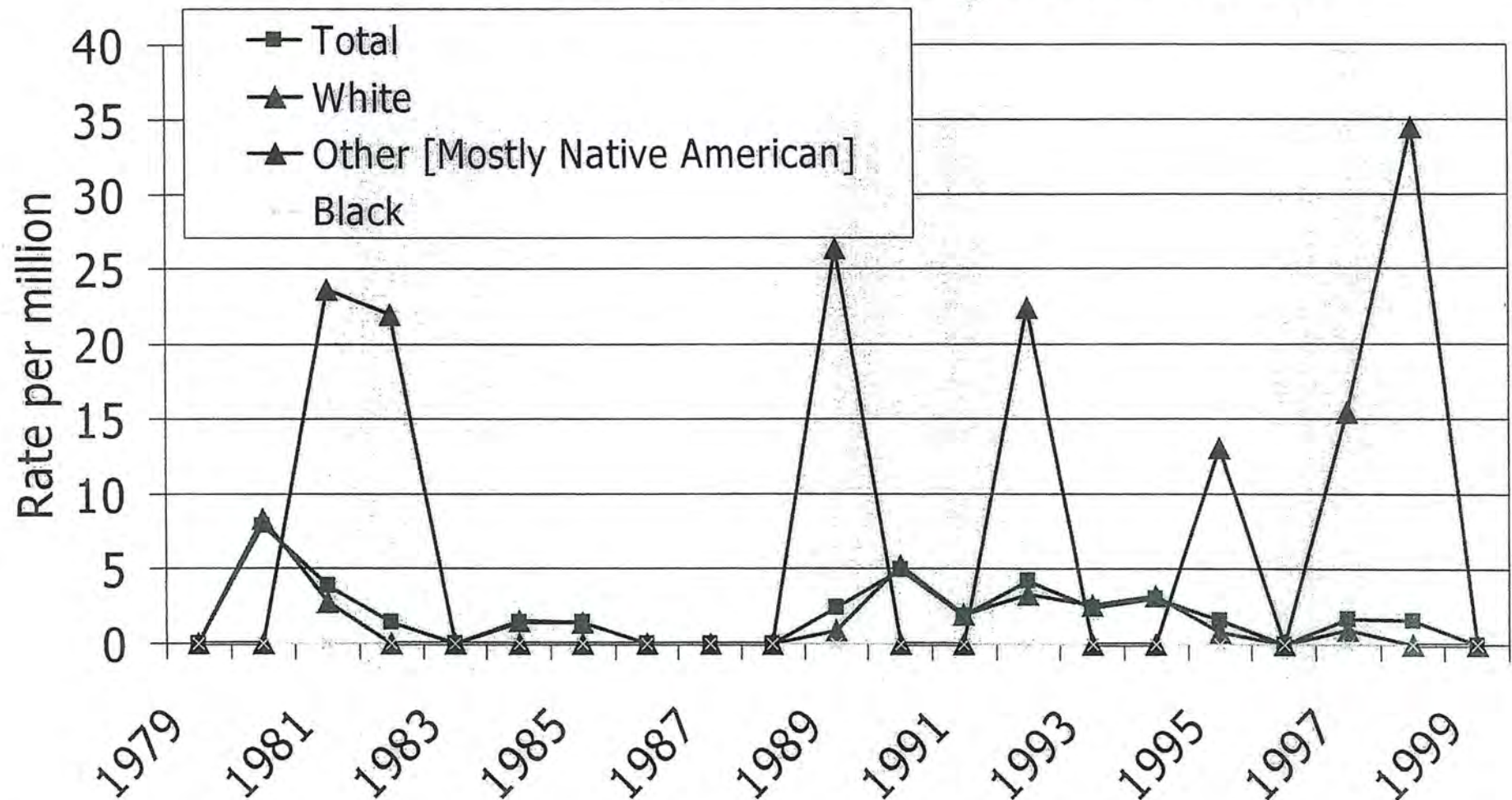
- **Initial database evaluation**
 - NM Vital Records and Health Statistics
 - NM Workers' Compensation Administration
 - Mine Safety and Health Administration
 - NM Miners' Outreach Program

Age-adjusted Mortality due to Silicosis New Mexico, 1979-1999, by Race Population 15 years of age and older



US DHHS, CDC, NCHS, Office of Analysis and Epidemiology (OAE), Compressed Mortality File (CMF), computer tape, CDC WONDER On-line Database.

Age-adjusted Mortality due to Silicosis New Mexico, 1979-1999, by Race Population 15 years of age and older



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New Mexico Worker's Compensation

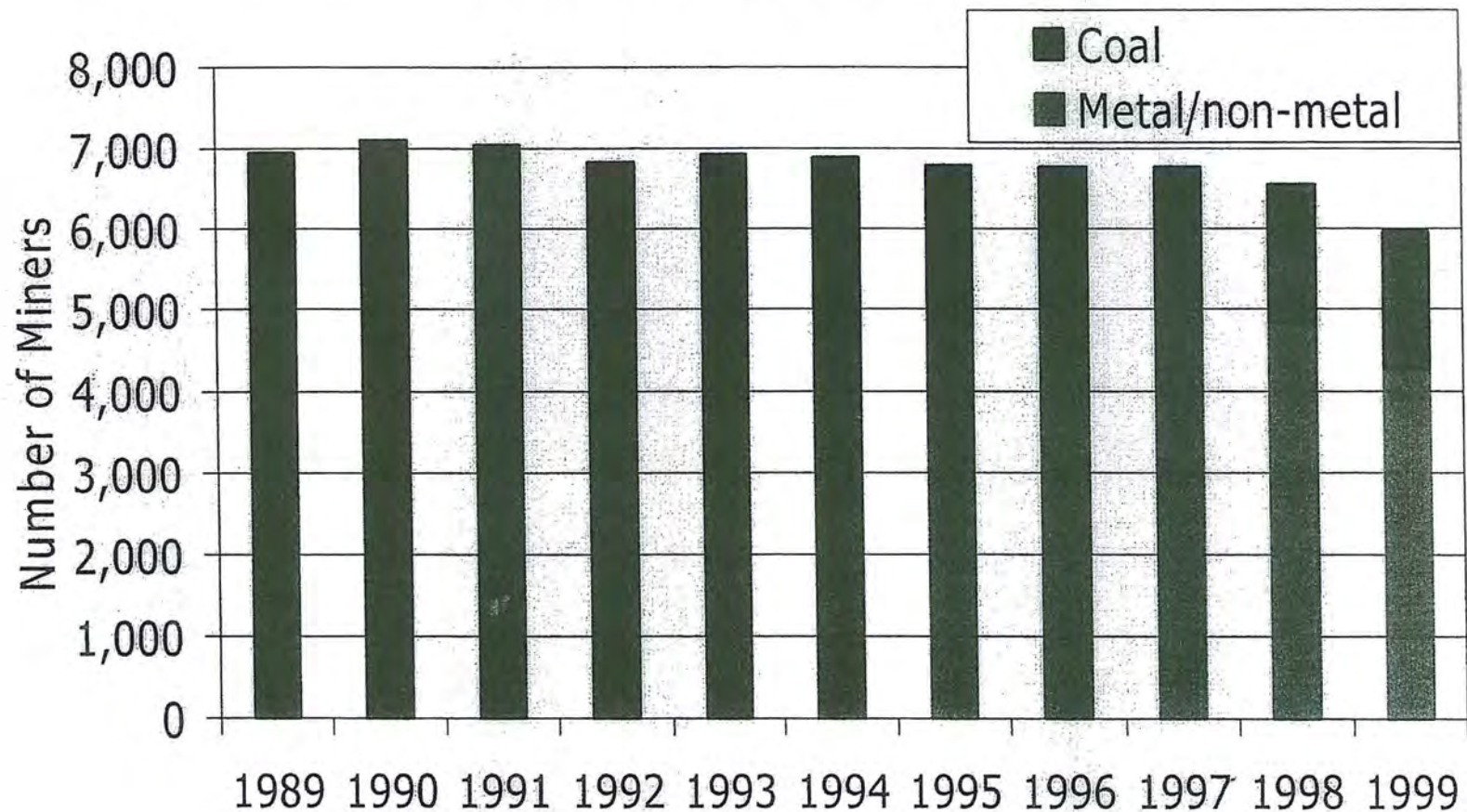
From 1989-1999:

- 20 claims for pneumoconiosis
 - 2 claims of silicosis
- Neither silicosis case indicated mining in SOC or NAICS code (1 employment services, 1 utility system construction)

Mine Safety and Health Administration

- **Mean number of miners:**
 - coal miners = 1,831
 - Metal/ Non-Metal miners = 4,947
- **From 1989-1999:**
 - 1 case of silicosis recorded
 - Male
 - Age Range = 50-60 years
 - Mining Experience = 26 years

Number of Miners in New Mexico, 1989-1999

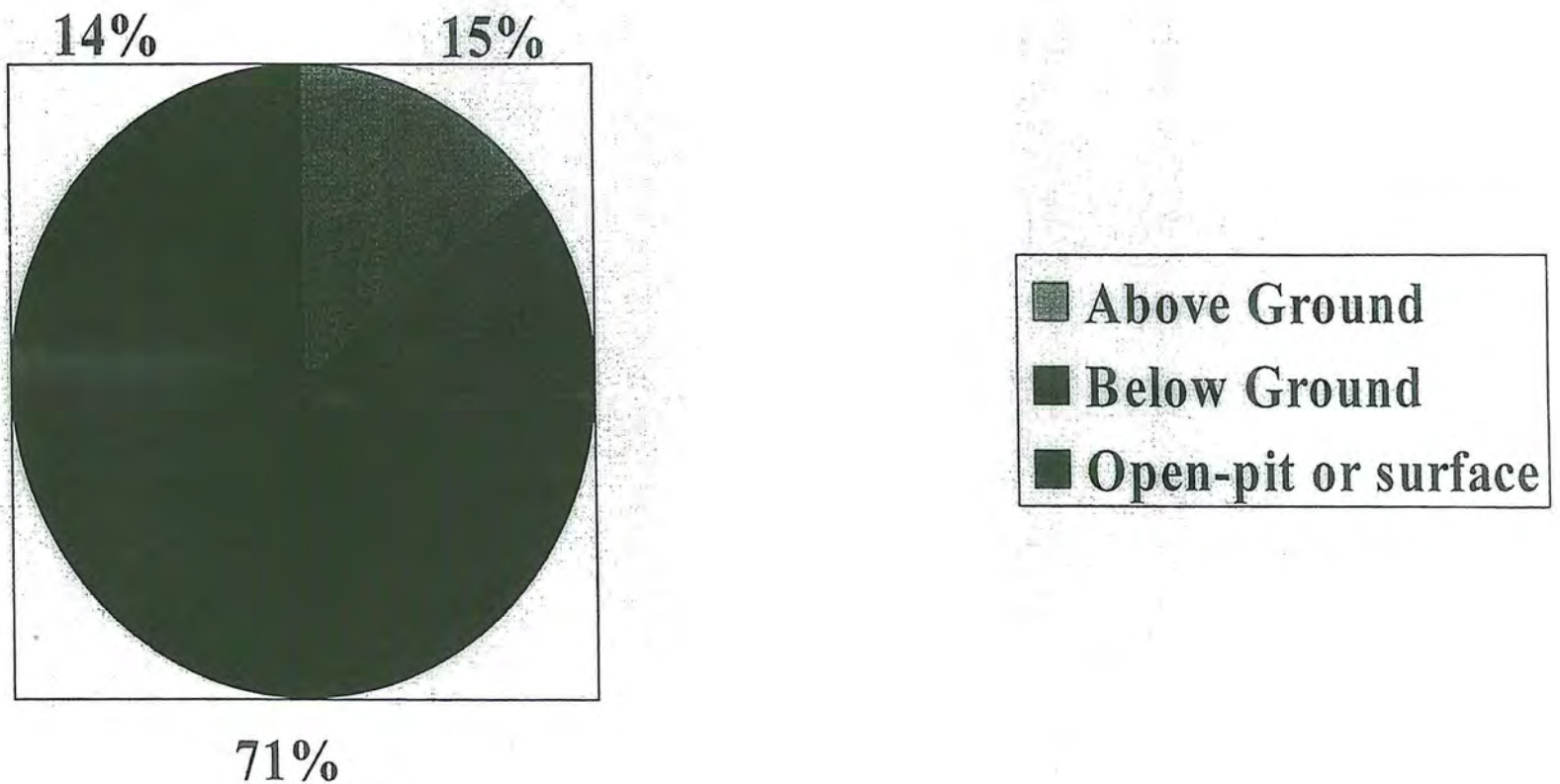


Miners' Outreach Program

- **Voluntary Health Screening Program since 1989 - Miners' Colfax Medical Center**
- **From 1989-1999:**
 - **3,788 miners evaluated**
 - **78% former miners**
 - **98% male**
 - **Mean Age=57 years**

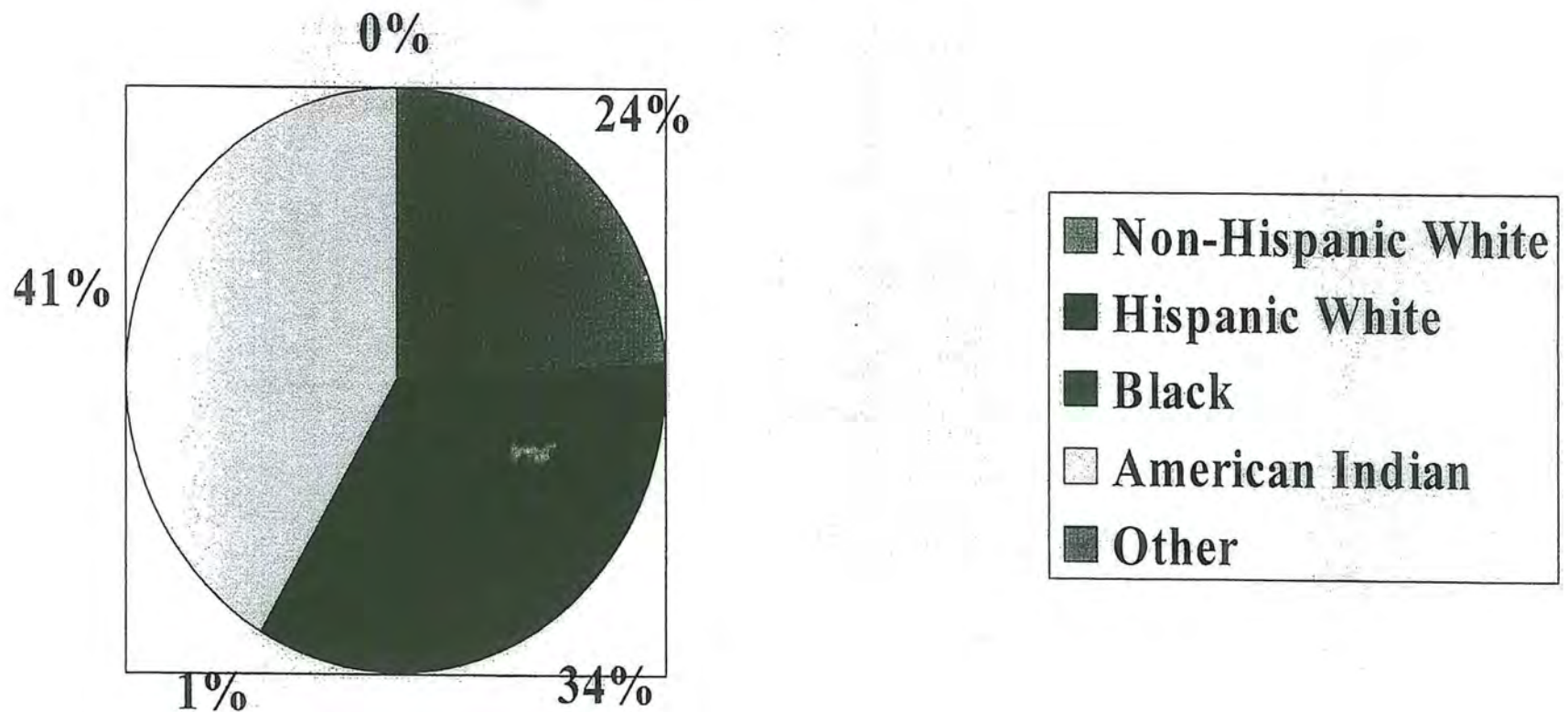
New Mexico Miner's Outreach Program

Type of Mine



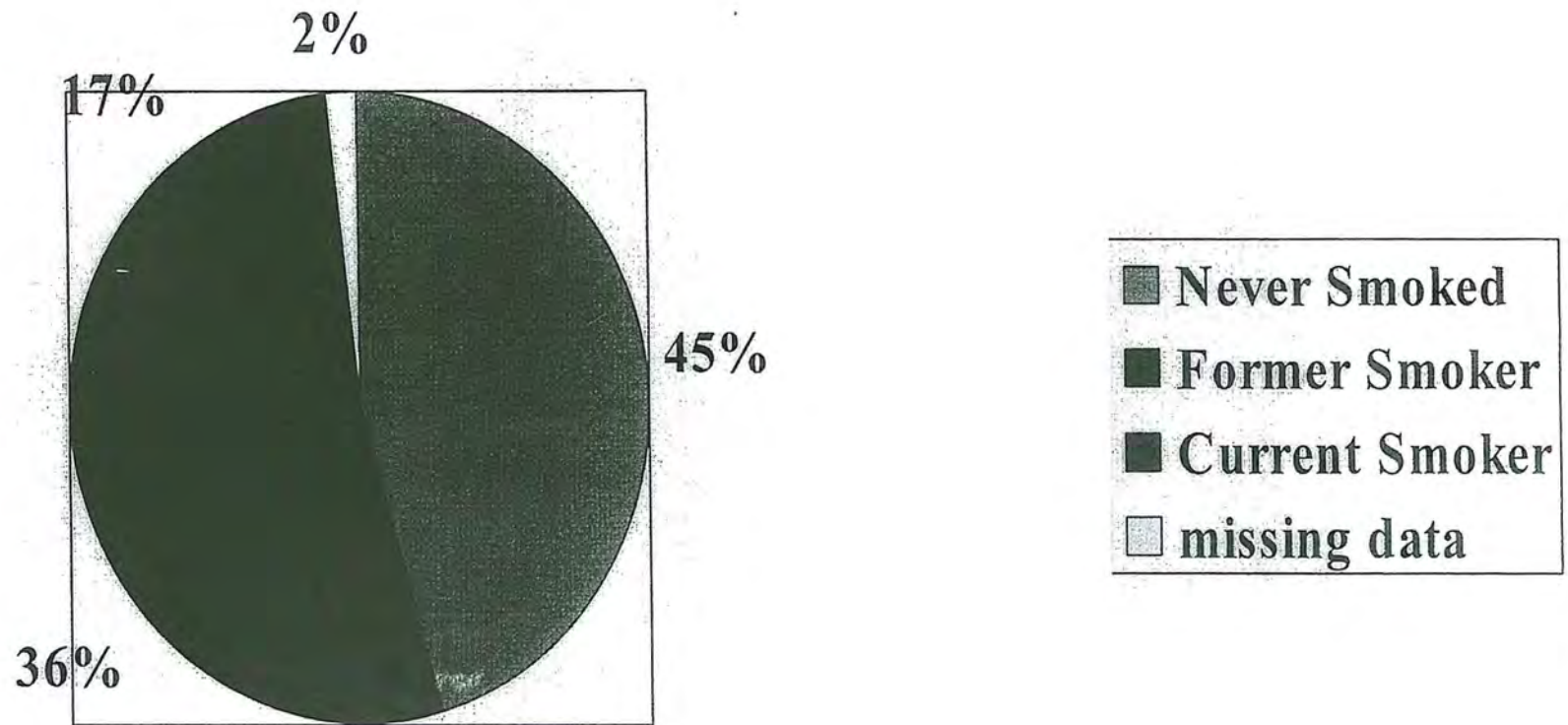
New Mexico Miner's Outreach Program

Ethnicity



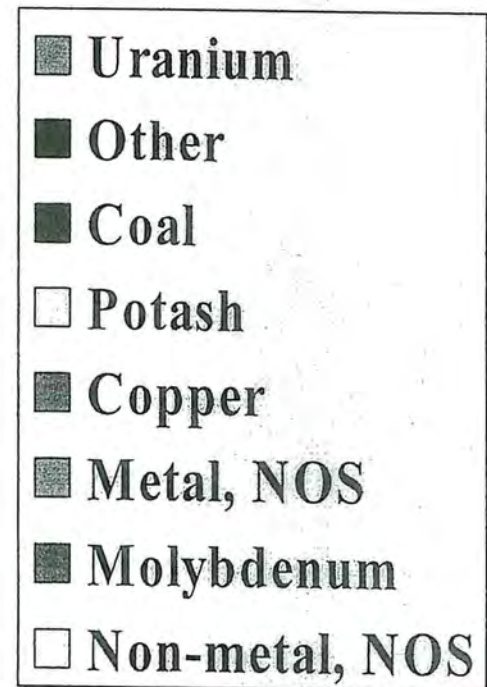
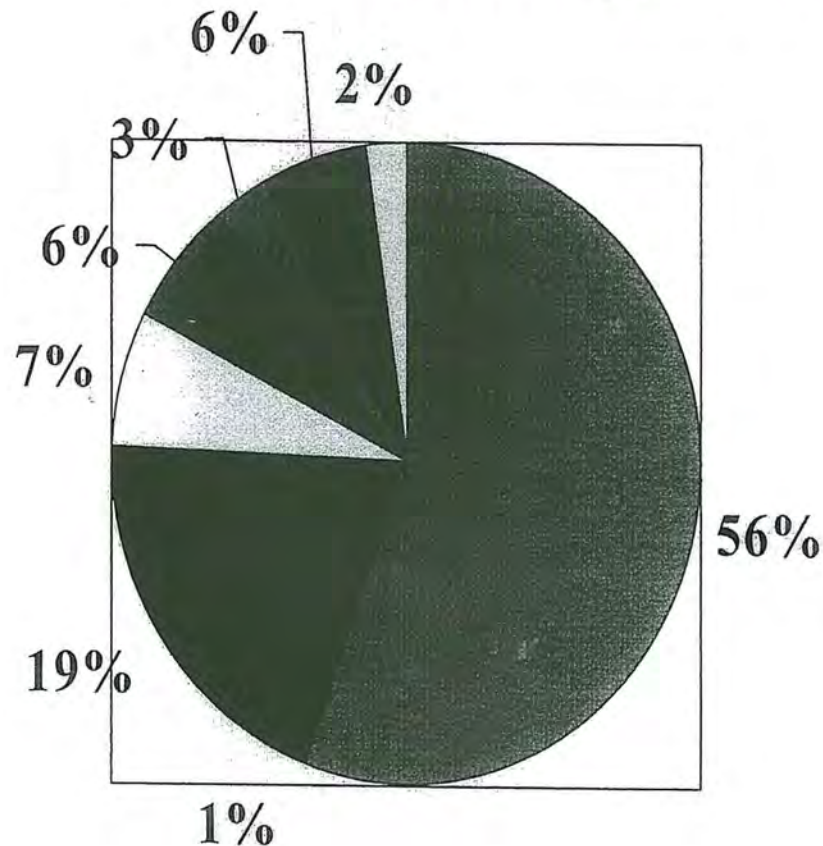
New Mexico Miner's Outreach Program

Smoking Status



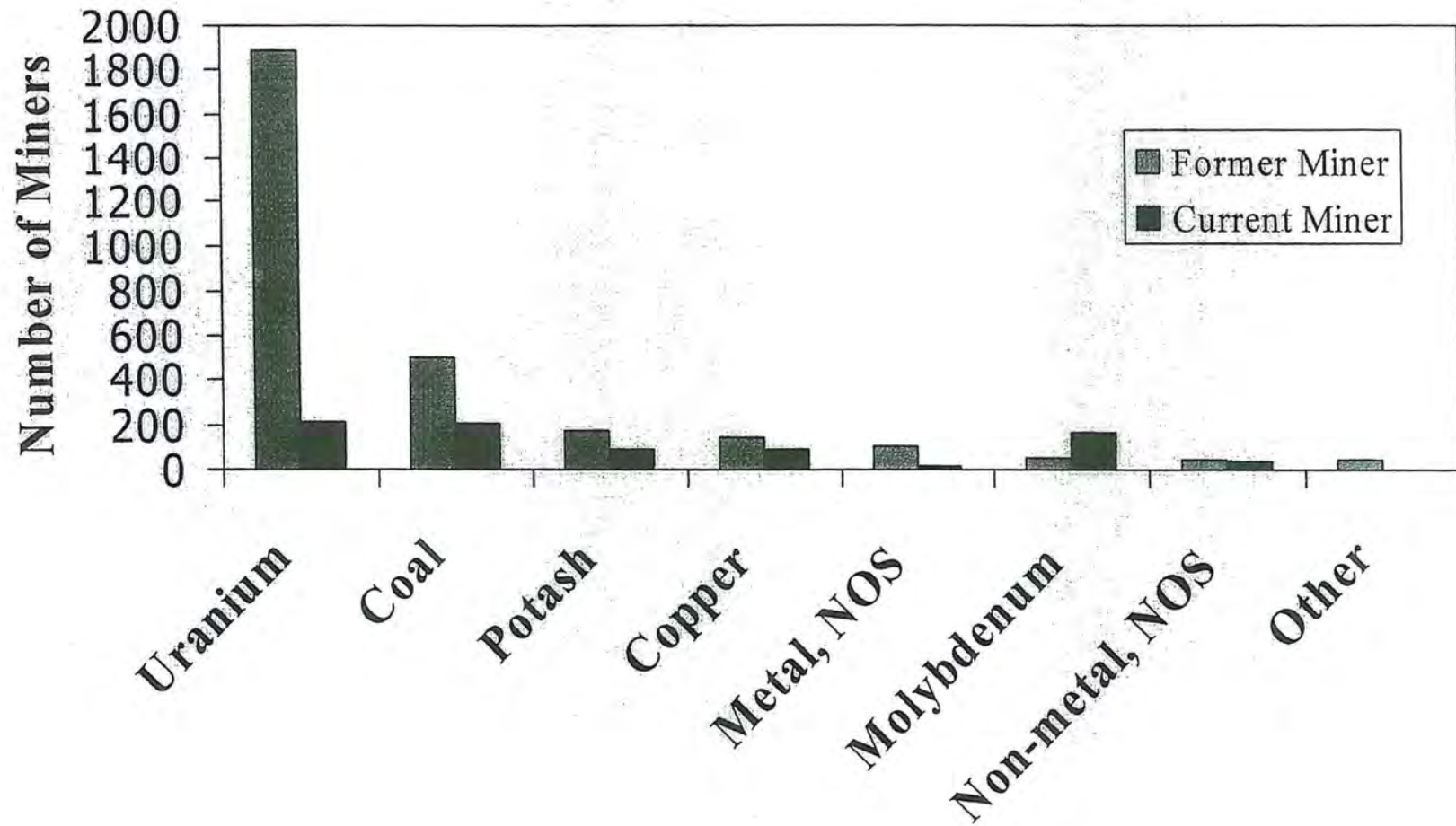
New Mexico Miner's Outreach Program

Mining Commodity



New Mexico Miner's Outreach Program

Mining Commodity by Former/Current Miner

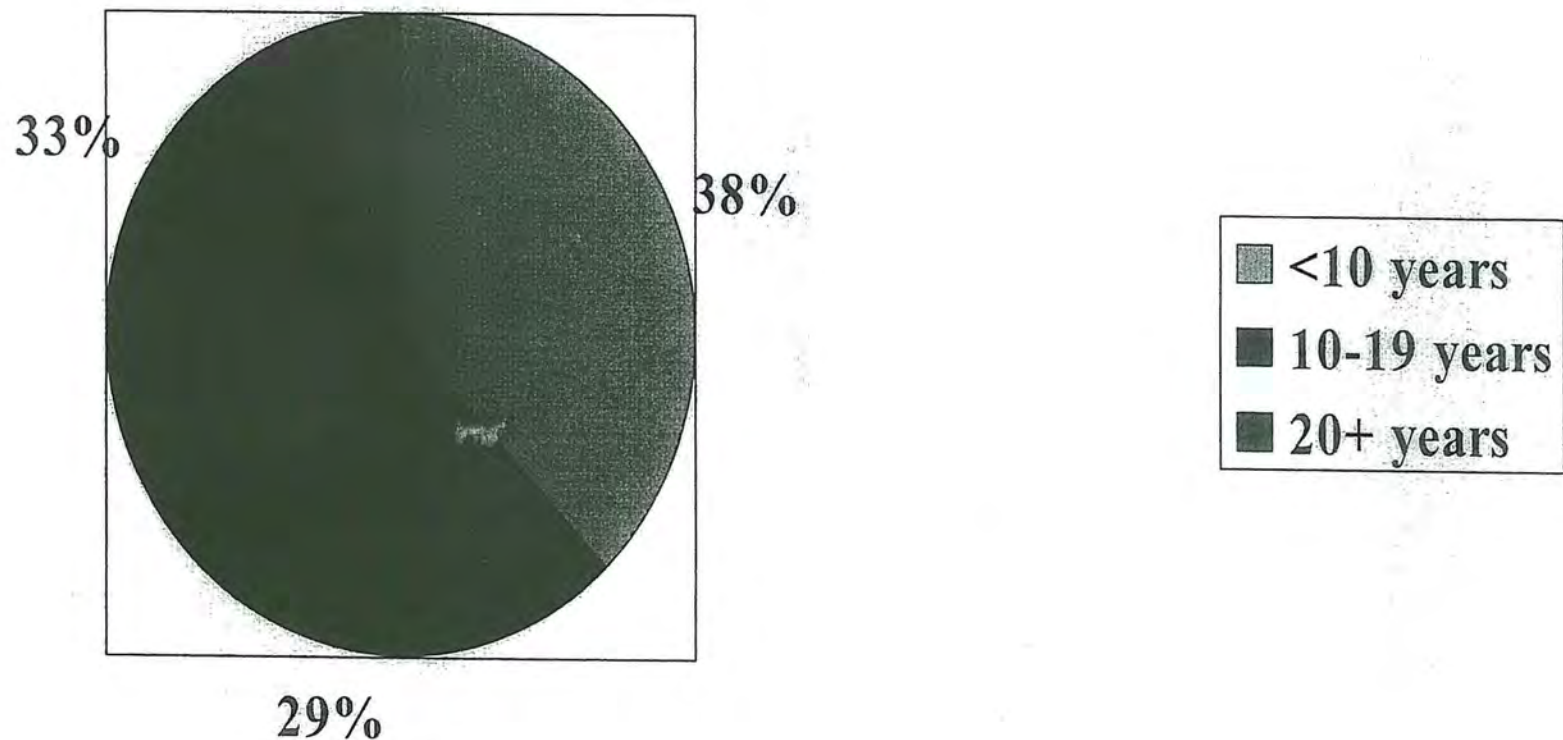


New Mexico Miners Outreach Program

- **Uranium miners- predominantly Native American (65%)**
- **Coal miners- mostly White (49% NHW, 33% HW)**
- **Copper miners-71% HW; Mo: 91% HW**
- **Potash miners- 76% Non-Hispanic White**

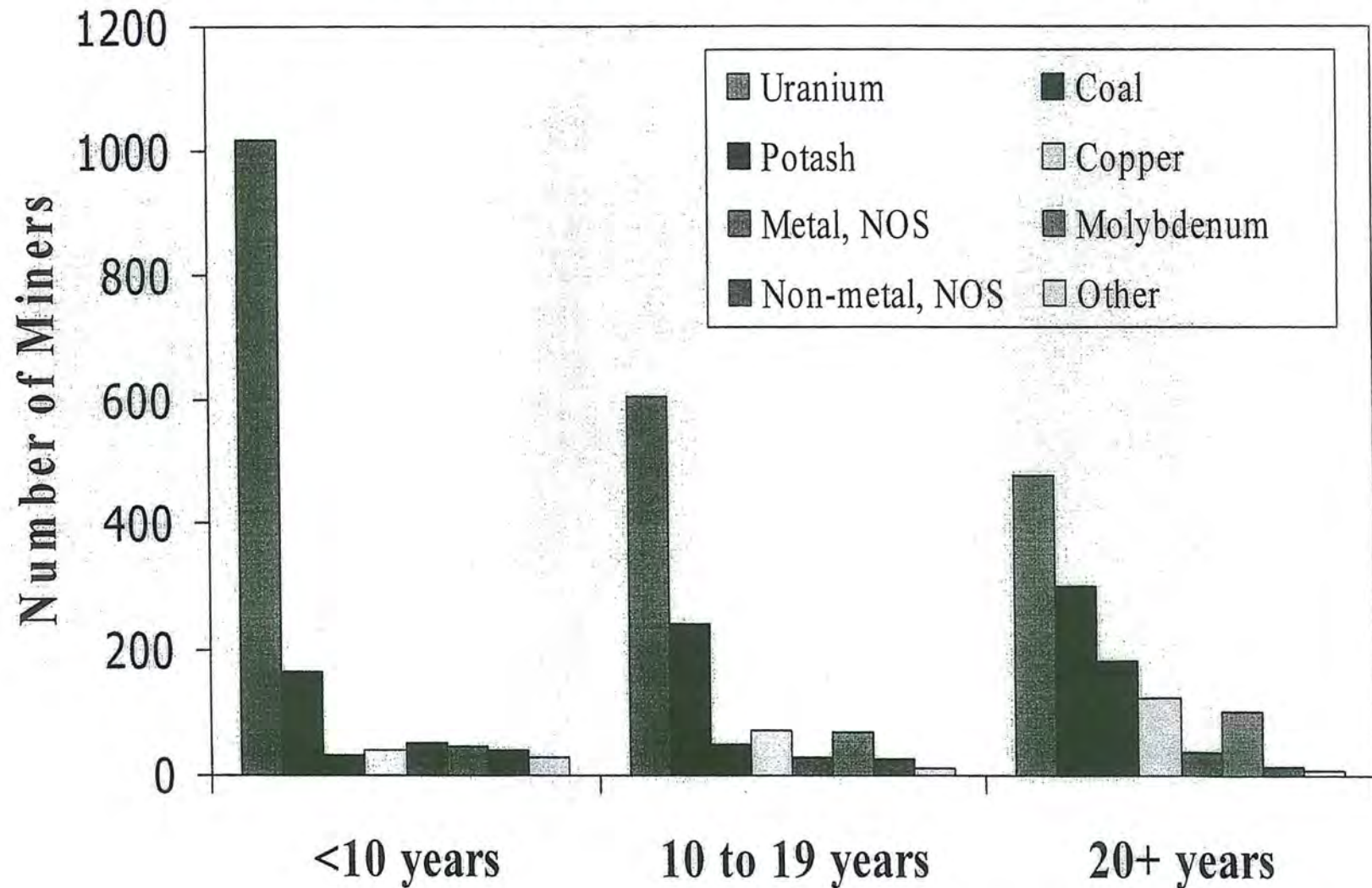
New Mexico Miner's Outreach Program

Years of Mining



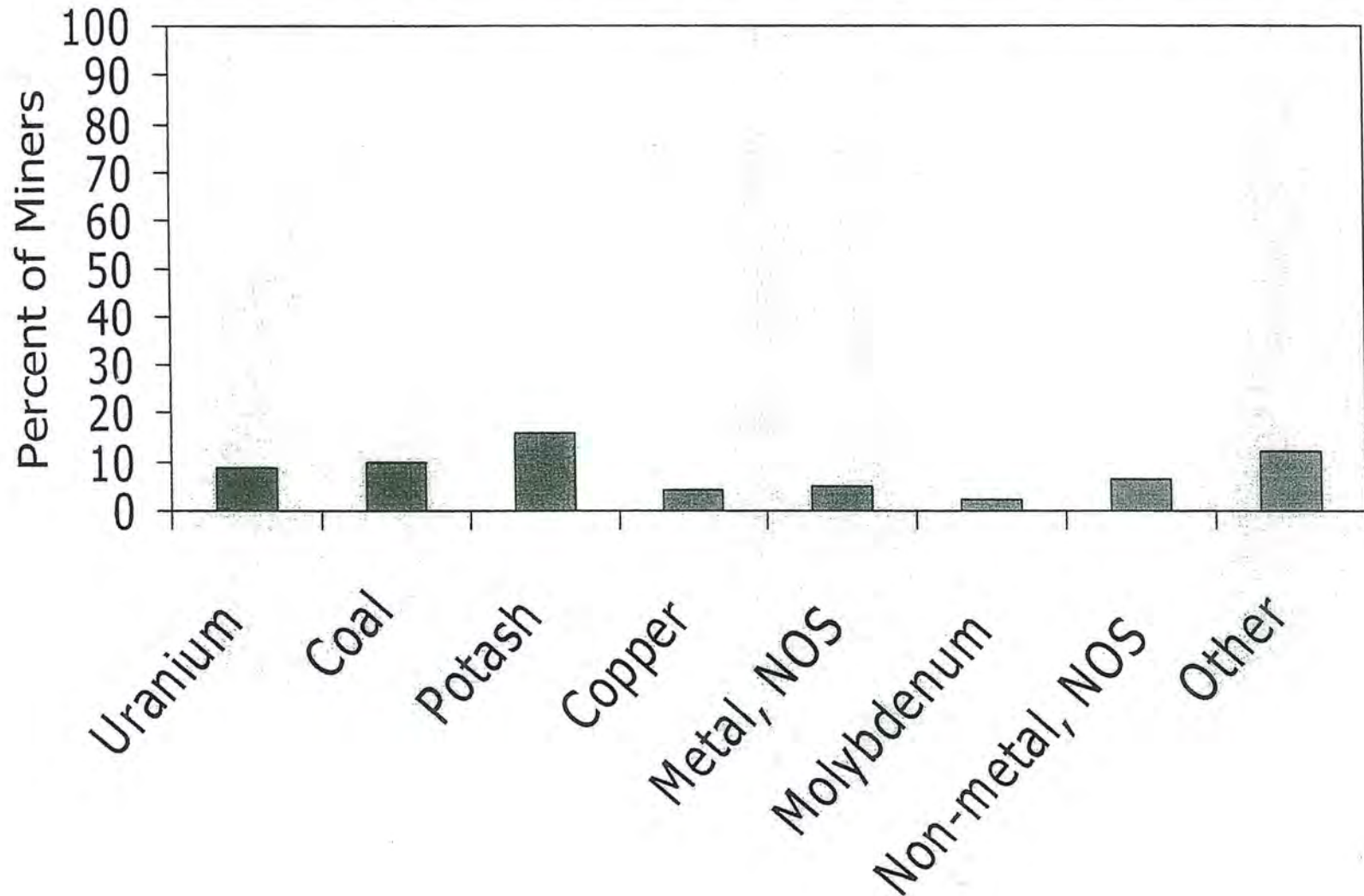
New Mexico Miner's Outreach Program

Mining Commodity by Years of Mining



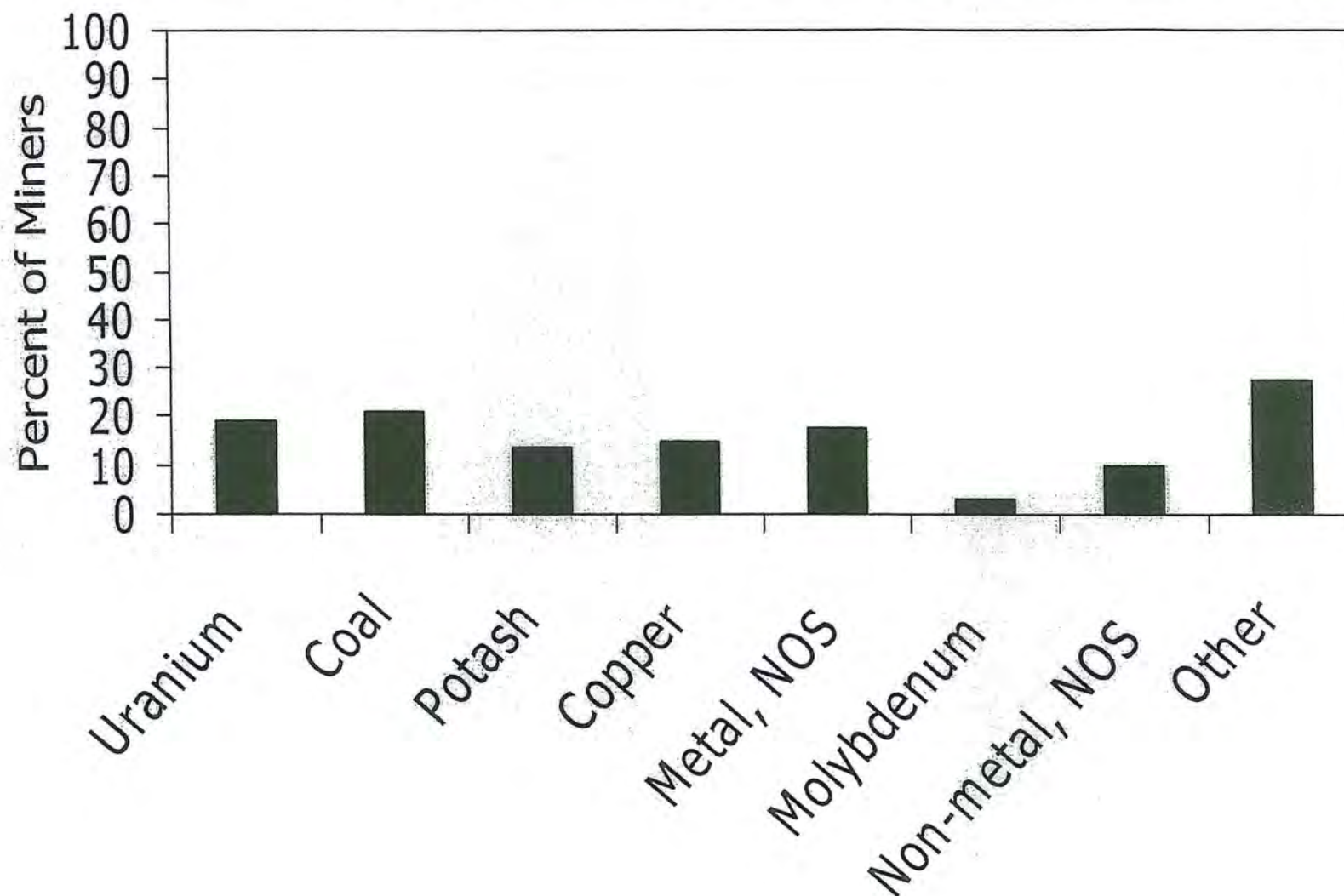
New Mexico Miner's Outreach Program

Asthma Diagnosis by Mining Commodity



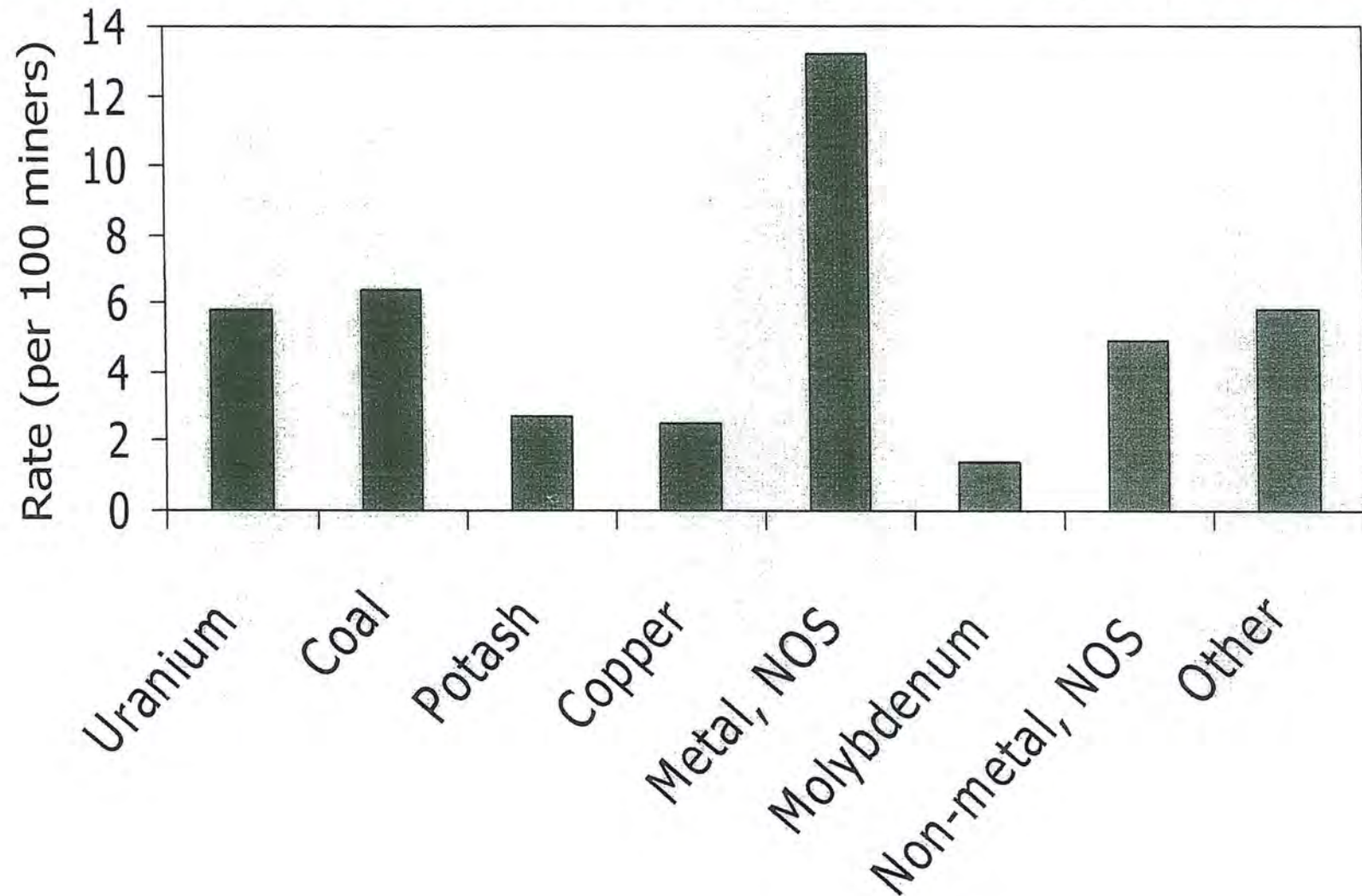
New Mexico Miner's Outreach Program

Bronchitis Diagnosis by Mining Commodity

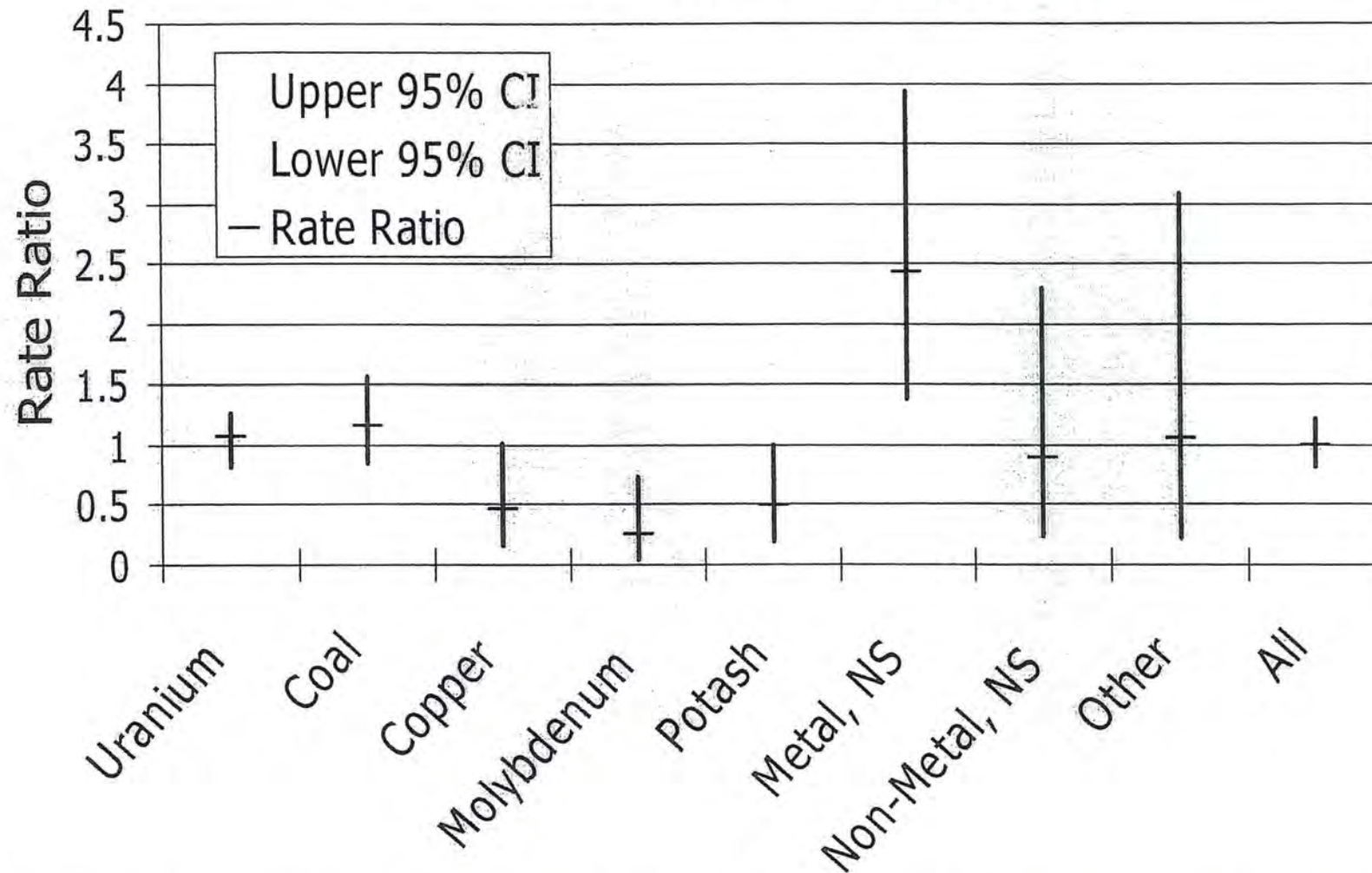


New Mexico Miner's Outreach Program

Rate of Pneumoconiosis by Mining Commodity

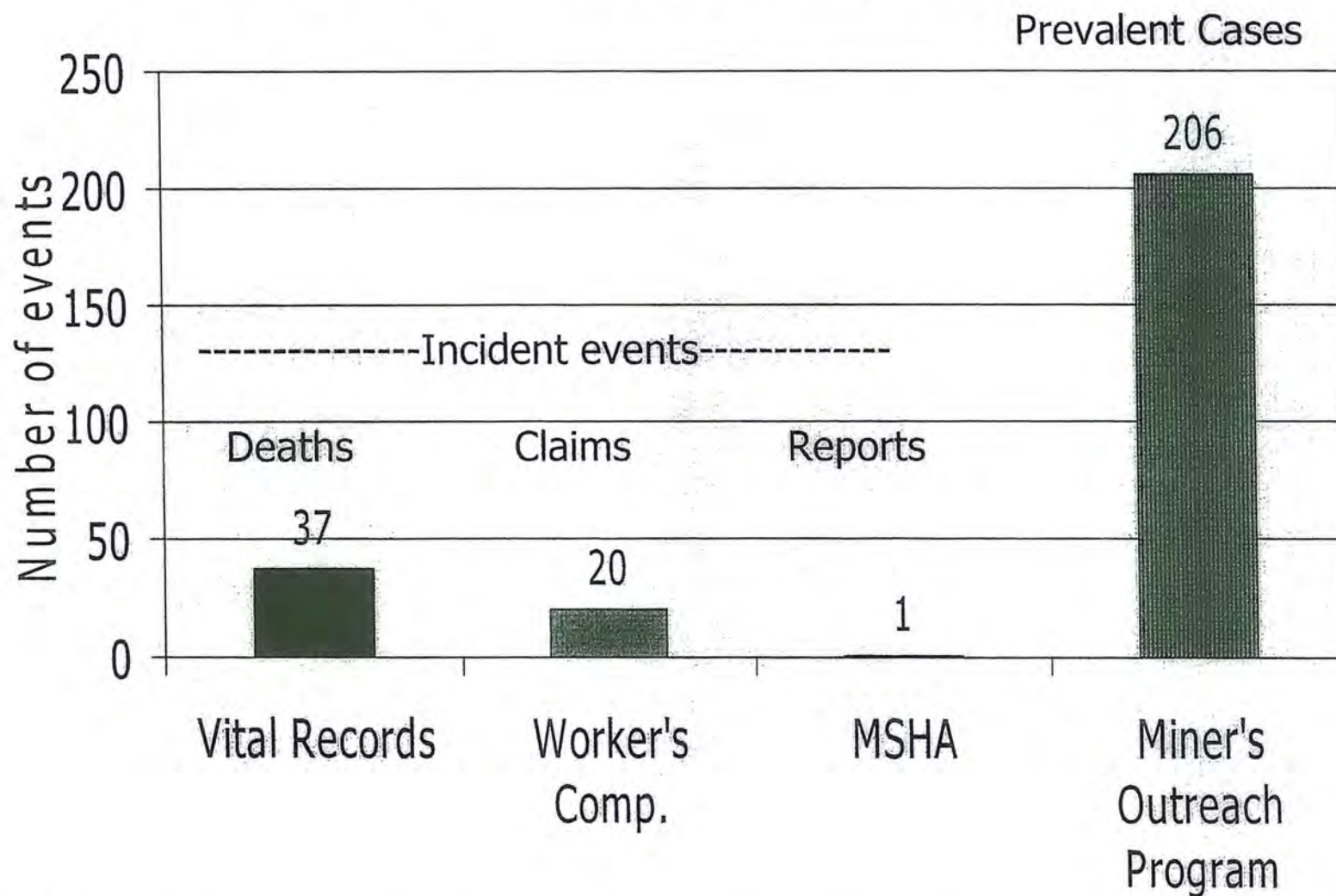


New Mexico Miner's Outreach Program Rate Ratios of Pneumoconiosis on Chest X-ray, by Primary Mining Commodity

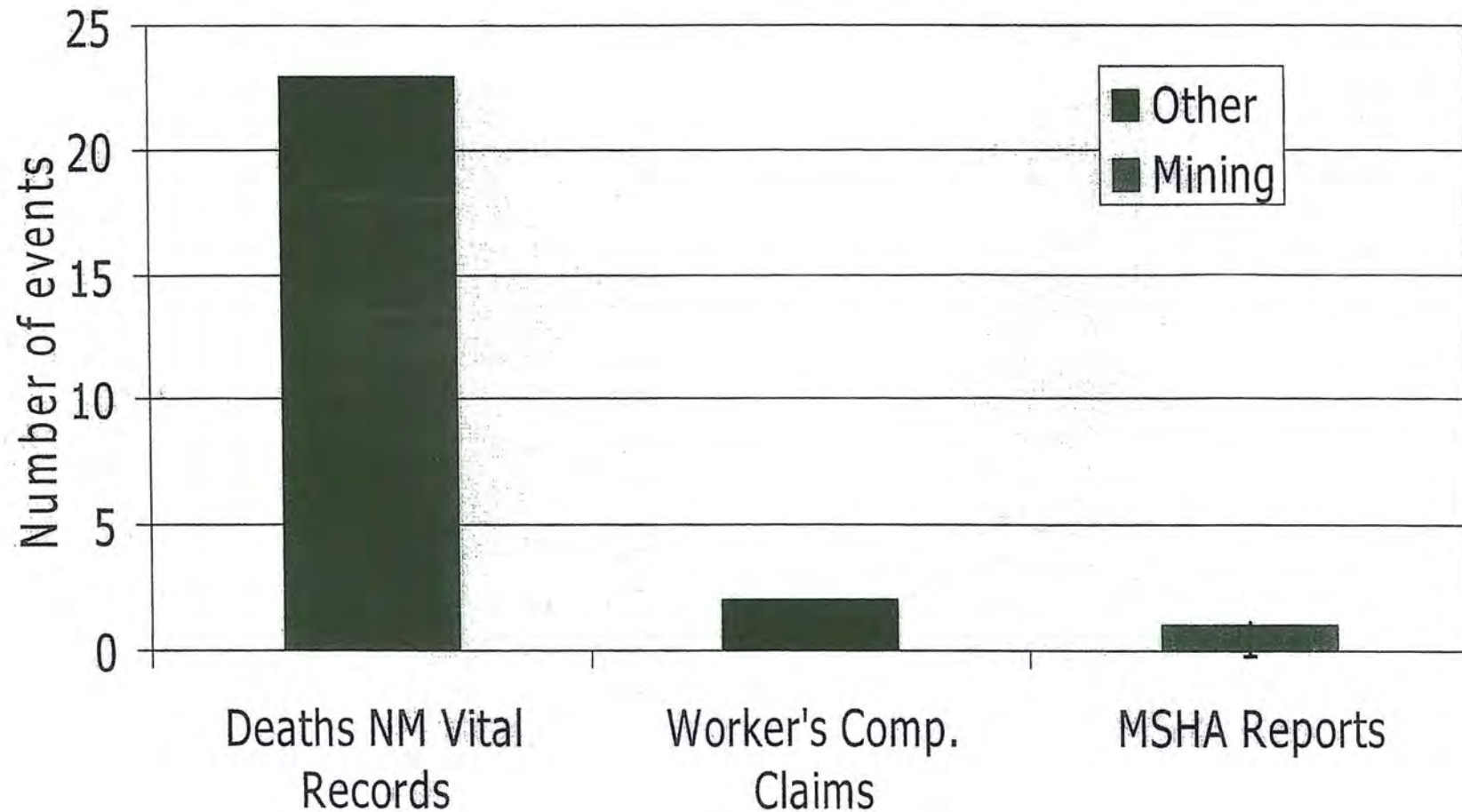


Data: New Mexico Miners' Outreach Program, Mining and Health Effects Program, Department of Internal Medicine, UNMHSC
Analysis: New Mexico Worker's Health Surveillance Project, Office of Epidemiology, New Mexico Department of Health

Summary of Pneumoconiosis Events New Mexico, 1989-1998



Summary of Silicosis Incident Events New Mexico, 1989-1999



Improving Silicosis Reporting in New Mexico

- Silicosis **has** been added to the *List of Notifiable Conditions*, the official regulations for reportable conditions in New Mexico.
- The Worker's Health Surveillance Project will actively encourage physicians, including radiologists and pathologists, as well as other health-care professionals, to report all diagnosed or suspected cases of silicosis. These reports should include persons with:
 - A. A physician's provisional or working diagnosis of silicosis, *Or*
 - B. A chest radiograph interpreted as consistent with silicosis, *Or*
 - C. Pathologic findings consistent with silicosis.