Characterizing the Burden of Disease and Improving Health Among Western Miners

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Metal-Nonmetal (MNM) Mining Industry

- Employs ~ 66,000 workers
- Contributes up to $232 billion to U.S. GDP
- Mined resources ubiquitous in everyday products

Physical Hazards

- Roof collapse
- Heavy machinery
- Toxic exposures

Miners are Vulnerable

Physical hazards

- Long hours
- Remote locations
- High turnover
- Mobile population

Program Goals

- Assess the health status of MNM miners
- Identify opportunities for disease prevention
- Improve miner health

MNM Program Goals

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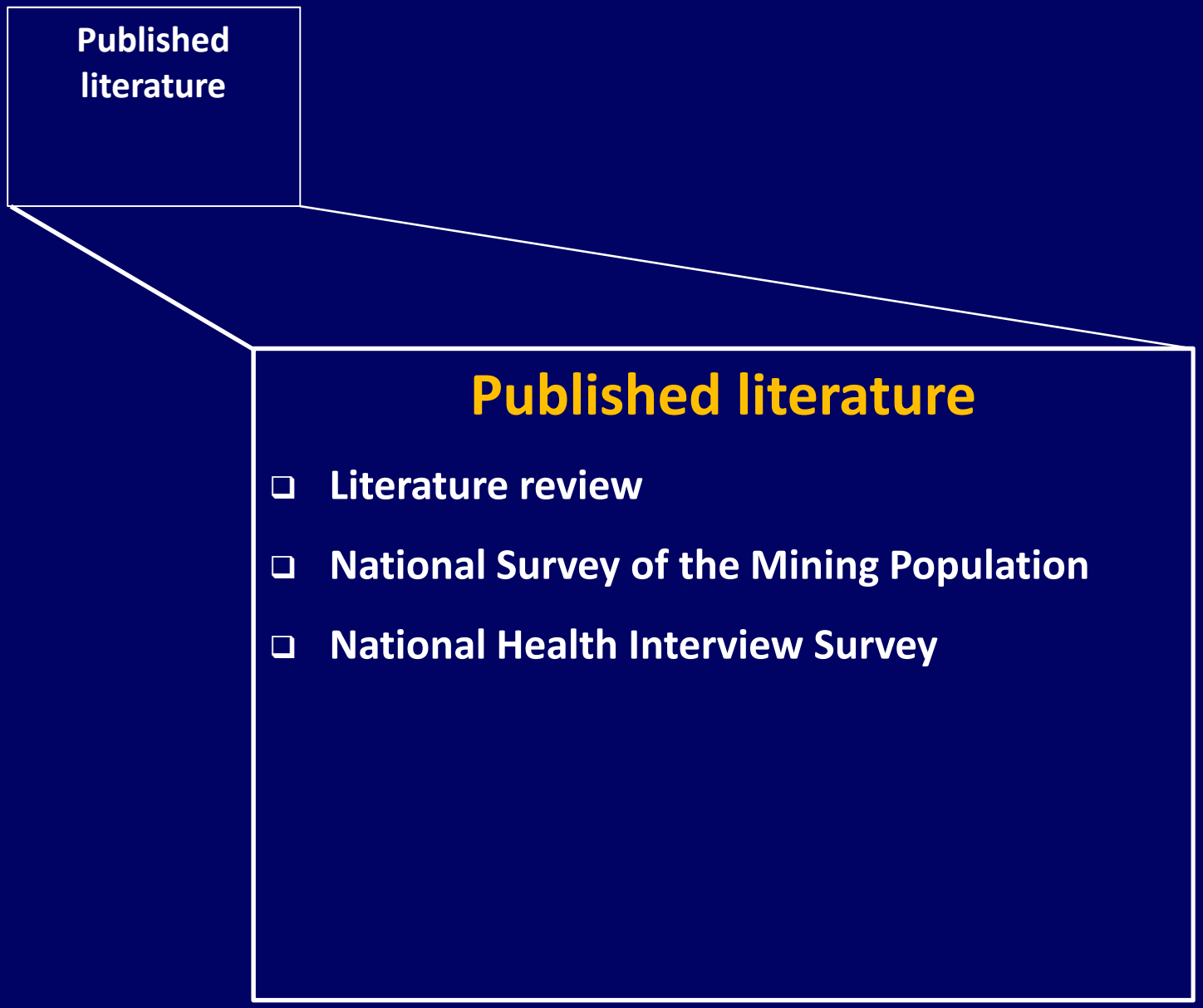
Sources of Information about MNM Miners' Health



Sources of Information about MNM Miners' Health

Published literature

Existing public health data

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- National Occupational Mortality Surveillance
- Mining Safety and Health Administration

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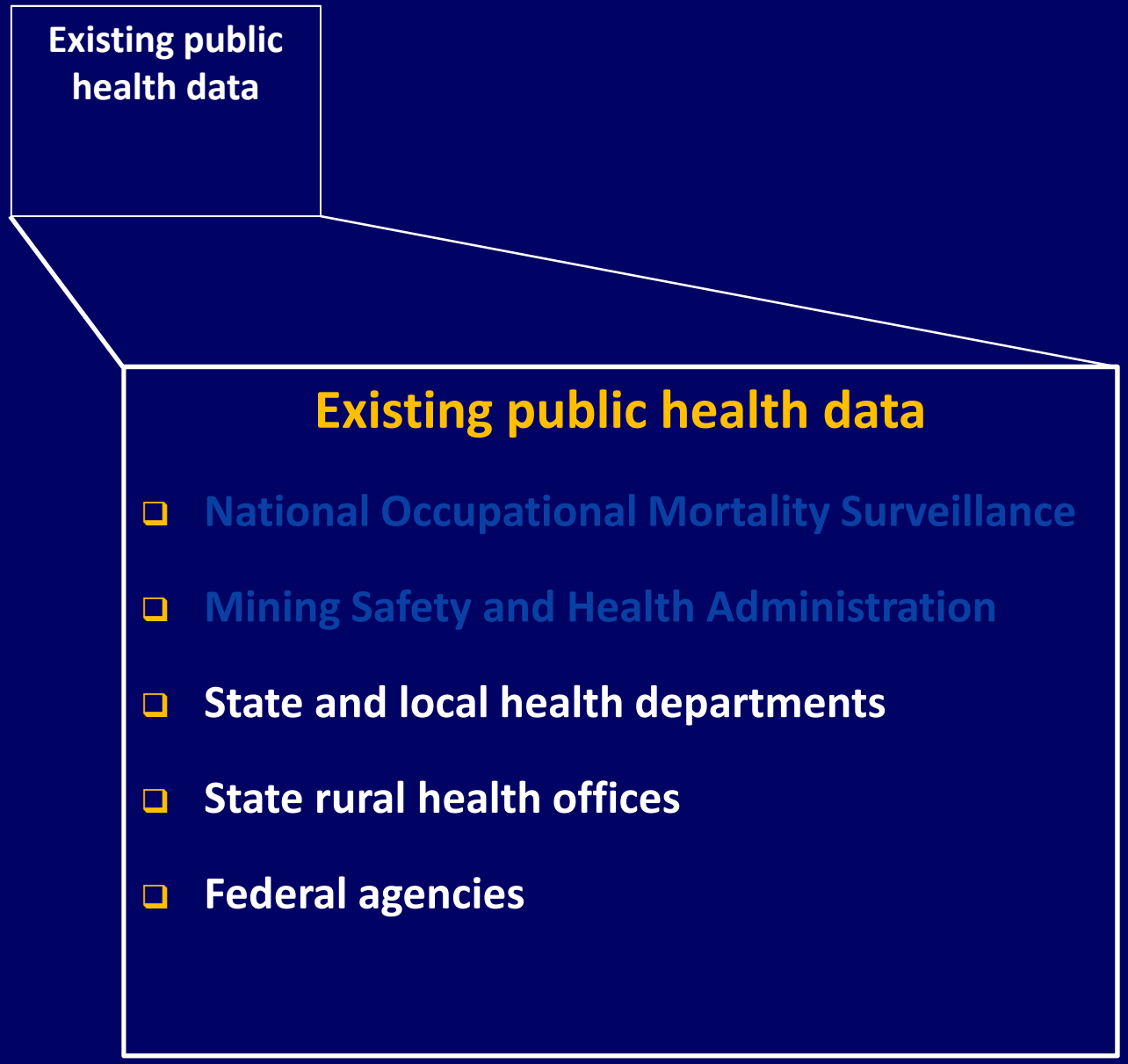

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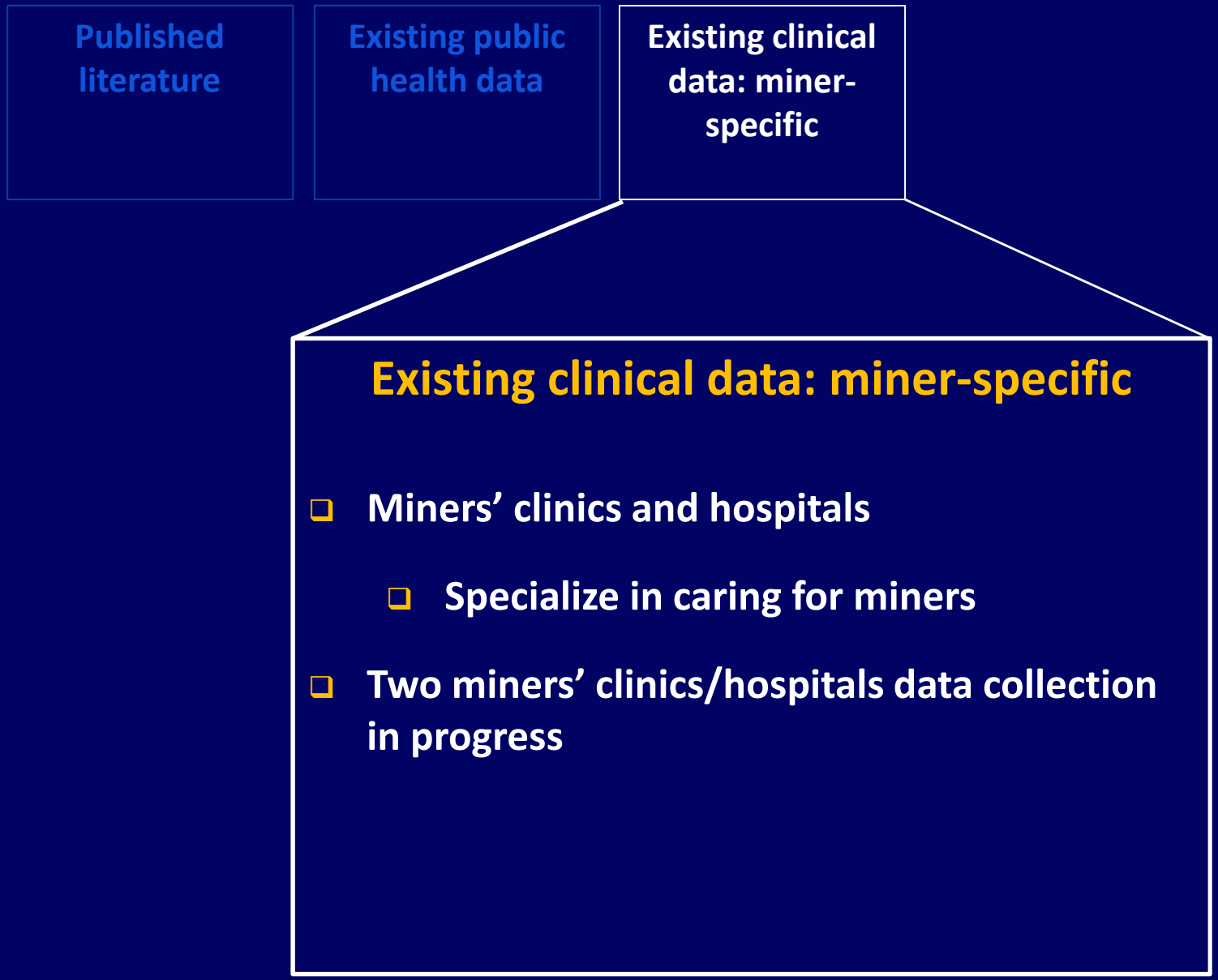


Sources of Information about MNM Miners' Health

Published literature	Existing public health data	Existing clinical data: miner-specific	Existing clinical data: primary care

Existing clinical data: primary care clinics

- Mapped mines in 12 states
- Called 151 clinics near mines
  - 64 clinics see miners

Sources of Information about MNM Miners' Health

Published literature	Existing public health data	Existing clinical data: miner-specific	Existing clinical data: primary care

Existing clinical data: primary care clinics

- Mapped mines in 12 states
- Called 151 clinics near mines
  - 64 clinics see miners
- No recorded occupation
- Partner with 1 clinic
  - Add industry and occupation to medical records

Sources of Information about MNM Miners' Health

Published literature	Existing public health data	Existing clinical data: miner-specific	Existing clinical data: primary care	**Collect our own data**

Collect our own data: mobile clinic

Sources of Information about MNM Miners' Health

Published literature	Existing public health data	Existing clinical data: miner-specific	Existing clinical data: primary care	Collect our own data

Collect our own data: mobile clinic

- Chest X-ray
- Pulmonary function test
- Height and weight
- Blood pressure
- Cholesterol and diabetes test
- Questionnaire

Sources of Information about MNM Miners' Health

Published literature	Existing public health data	Existing clinical data: miner-specific	Existing clinical data: primary care	Collect our own data

Collect our own data: mobile clinic

Questionnaire

- Work history
- Exposures
- Job stress
- Musculoskeletal symptoms
- Chronic disease

Next Steps

Published literature

Existing public health data

Miner's Hospitals

Primary Care Clinics

Collect our own data

- Complete data collection from miners' hospitals
- Capture industry and occupation in primary care visits
- Complete preparations for NIOSH mobile clinic

…Next Steps

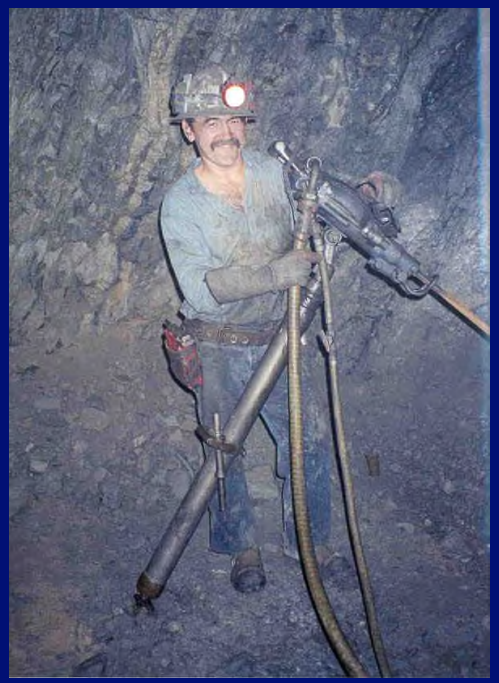
- Engage labor and industry partners
- Pilot health assessments in 2015

Summary

- Economically important industry
- Concentrated in western U.S.
- Vulnerable workforce
- Limited existing data
- NIOSH program in development

Ultimate Objective

- Data-driven interventions to improve the health of miners



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The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

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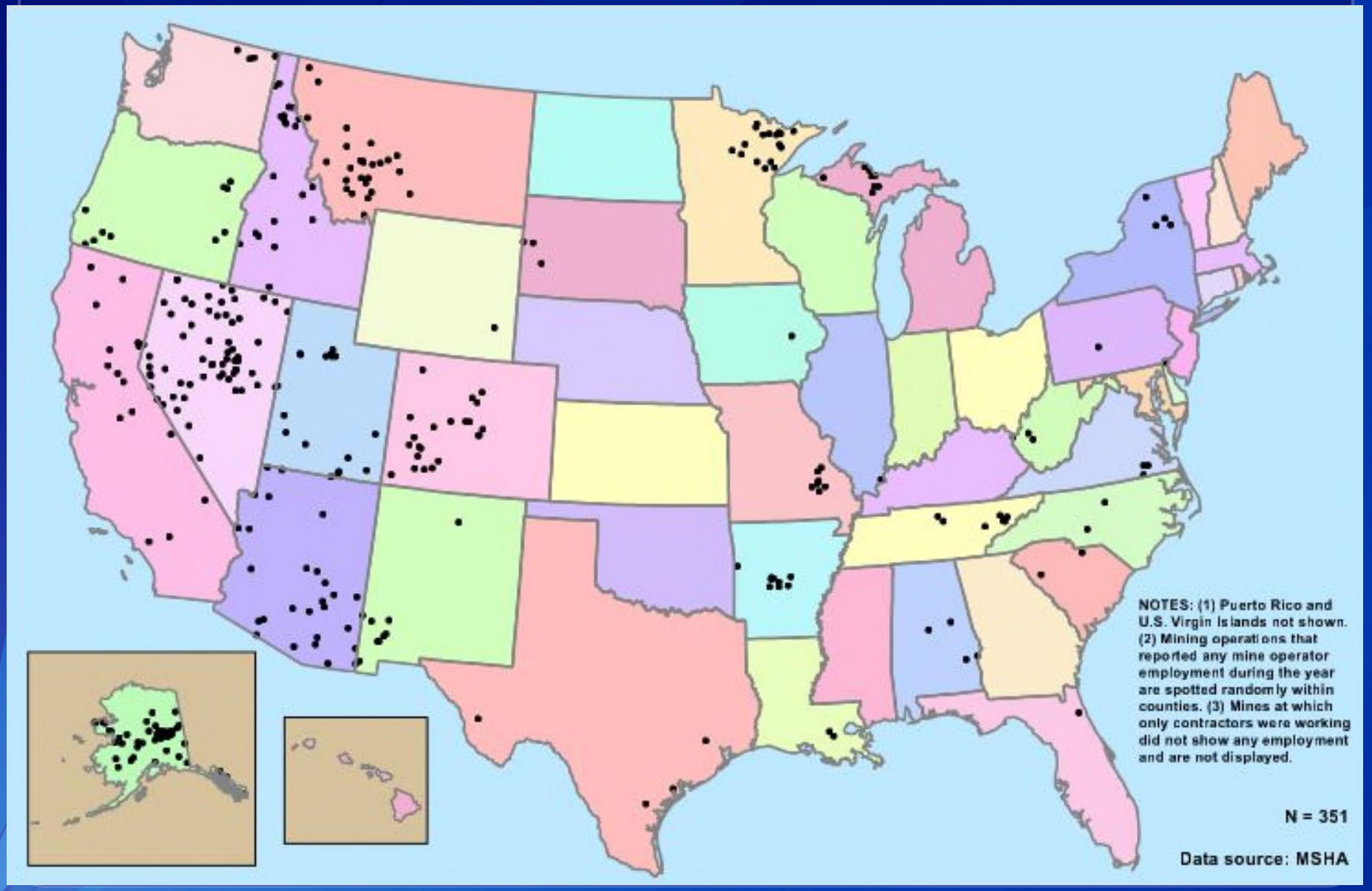
Metal Mines Concentrated in the West



Source: (http://www.cdc.gov/niosh/mining/statistics/metaloperators.html)