



Silica in Construction: How Partnerships and Creativity Can Reduce Occupational Exposures



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Recent Silicosis Disease Data New Jersey 1998 - 2003

- ▶ 77 confirmed silicosis cases
- ▶ 16 (21%) from the construction industry
- ▶ 4 (25%) involving concrete work
- ▶ 1 (25%) involving road construction

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Silicosis Disease Data

Michigan, Ohio, New Jersey

1993-1997

- ▶ 576 confirmed silicosis cases
- ▶ 45 (8%) from the construction industry
- ▶ 12 (27%) involving concrete work
- ▶ 4 (33%) involving road construction

Origins of the Silica Partnership

Converging Forces

- ▶ **NJDHSS/NIOSH Silicosis Surveillance (1985)**
- ▶ **FHWA Transportation Equity Act (1998)**
NJDOT Highway Reconstruction Projects
NJDOT/NJDHSS Bridge Painting Project
- ▶ **NJDHSS Hazard Surveillance Project (1998)**
Sentinel Case – Highway Worker
Documents Overexposure to Crystalline Silica
- ▶ **Safety/Health Issues in the Construction Industry**

Origins of the Silica Partnership

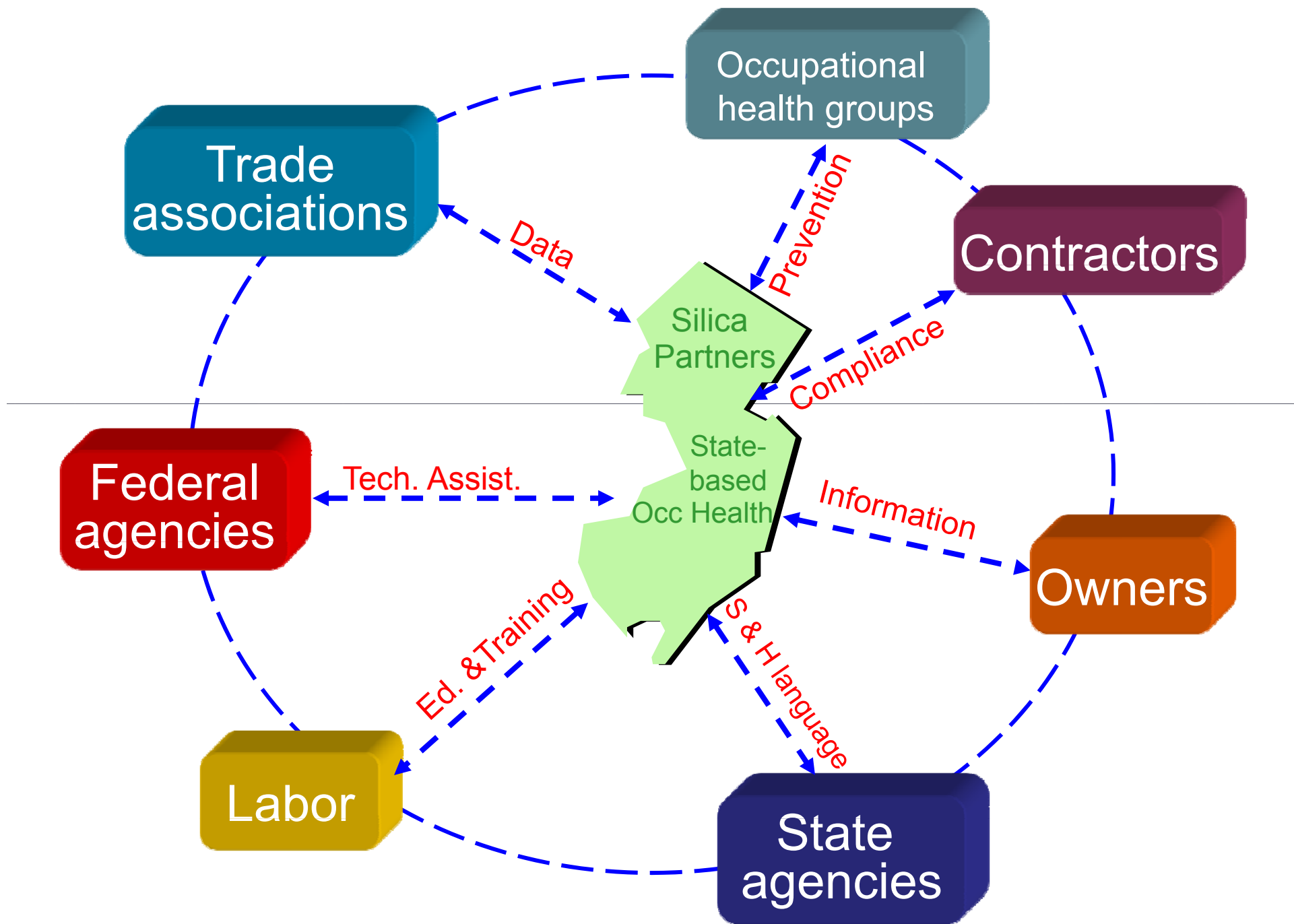
Converging Forces

- ▶ OSHA Revised Respiratory Prot Std. ('98)
- ▶ UTCA Annual S & H Conference ('97)
 - Concern among highway construction contractors who use union labor on how to comply with the revised respiratory protection standard
 - Medical evaluations
 - Fit testing
 - Training
- ▶ OSHA Special Emphasis Program for Silica

Partners

- ▶ NJ Utilities and Transportation Contractor's Association (NJUTCA)
- ▶ Association of General Contractors (AGC)
- ▶ 11 High Profile Heavy Highway Contractors
- ▶ Laborers' Locals 472 & 172
- ▶ NJ Laborers' Health and Safety Fund
- ▶ New Jersey State Safety Council
- ▶ NIOSH
- ▶ NJDHSS
- ▶ NJDOT
- ▶ NJ State OSHA Consultation
- ▶ NJ Turnpike Authority
- ▶ Federal OSHA

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Different Partners

Common Goals

- ▶ Determine silica exposure levels encountered during common highway construction tasks
- ▶ Eliminate excessive crystalline silica exposure to NJ employees working in SIC 1611
- ▶ Educate contractors regarding silica hazards; even playing field
- ▶ Develop a pool of trained, fit tested, and medically evaluated laborers to perform silica work
- ▶ Develop and incorporate specific language addressing silica hazards into NJDOT contracts
- ▶ Establish the feasibility of engineering controls for common silica producing tasks in construction

Comprehensive Solutions

- ▶ Partners provided compliance assistance and training to the partners and other contractors on and off site.
- ▶ NJDHSS and NJDOL OSHA Consultation conducted sampling at partner contractor worksites to quantify employee silica exposure during work tasks
- ▶ Laborers locals and employer associations worked together to develop a means to provide workers who are respirator fit tested, medically evaluated, and trained
- ▶ Partners worked together to develop and implement NJDOT contract language that includes engineering controls, respiratory protection, competent person onsite, and a silica health and safety plan.

Ongoing Solutions

- ▶ Partners are currently developing and testing new engineering controls for silica producing tasks in the construction industry.
- ▶ Partners are incorporating the use of these engineering controls
- ▶ Partners are promoting the use of these engineering controls throughout the construction industry

Pooling Talent and Resources

NIOSH-NJDOL-NJDHSS

- ▶ Provided non-regulatory involvement in the silica exposure survey
- ▶ Provided partnership with significant engineering and IH expertise
- ▶ Experience with other construction industry projects (Asphalt study, Bridge Painting project)
- ▶ Increased resources for sampling and analysis and engineering control research/design

Sharing Profit

- ▶ Laborers establishes a trained workforce that is preferred for this type of work
- ▶ Contractors can compete for these projects and comply with safety and health requirements
- ▶ Occupational health research groups publish results of study for stakeholders
- ▶ Government agencies achieve their missions to protect workers and provide assistance to employers

Value of Trained Workers



Concrete cutting using a demo or chop saw without respirator



Worker wearing respirator with ancillary worker exposure

Concrete Work

Sidewalk Repair Disappearing Act

