Strategic Initiatives at NIOSH

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Overview

- Management Initiatives
  - Program Portfolio
  - Program Planning
  - Program Evaluation
- Science Initiatives
- Science Policy Issues
- Emerging Issues
Framework

Regulation/Enforcement
- Department of Labor (DOL)
  - Mine Safety and Health Administration (MSHA)
  - Occupational Safety and Health Administration (OSHA)

Research and Prevention Recommendations
- Department of Health and Human Services (HHS)
  - Centers for Disease Control and Prevention (CDC)
  - National Institute for Occupational Safety and Health (NIOSH)

NIOSH Program Portfolio

- Sector Programs
- Cross-sector Programs
- Emphasis Programs
Sector Programs

- Agriculture, Forestry, Fishing
- Construction
- Health Care
- Manufacturing
- Mining w/ Oil & Gas Extraction
- Services
- Transportation, Warehousing & Utilities
- Wholesale and Retail Trade

Cross-sector Programs

- Cancer, reproductive and cardiovascular
- Hearing loss prevention
- Immune and dermal diseases
- Musculoskeletal disorders
- Respiratory Diseases
- Traumatic Injury
- Work Organization & Stress-related disorders

...more
Emphasis Programs

- Economics
- Exposure Assessment
- Engineering Controls
- Nanotechnology
- Health Disparities
- Small Business
- Surveillance

...more

Home Page: www.cdc.gov/niosh
Program Portfolio Website

Workplace Safety and Health

Construction Sector (example)

Workplace Safety and Health
**Logic Model: Inputs**

- Budget
- Staffing
- Strategic Plan
- Partners
- NORA
- Economics
- Occupational Risks

**Logic Model: Activities**

- Projects
- Programs
- Grants
- Cooperative Agreements
- Training
**Logic Model: Outputs**

- Peer-reviewed Publications
- NIOSH Documents
- Testimony
- Research methods
- Control technologies
- Patents
- Trained Professionals

**Logic Model: Transfer Activities**

- Partnerships
- Capacity building
  - Technical assistance
  - Training and education
- Dissemination
  - Printed materials
  - Presentations
  - Social Marketing (Web, YouTube, etc.)

Translation of research into practice, products and technologies
**Logic Model: Intermediate Outcomes**

- **Inputs:**
- **Activities:**
- **Outputs:**

**Intermediate and Final Activities**
- Intermediate Activities ➔ Outputs ➔ Final Customers
  - (transformation)
  - (Implementation)

**Transfer**
- Regulations
- Guidance
- Standards
- Training and Education
- Pilot technologies

**Logic Model: End Outcomes**

- **Inputs:**
- **Activities:**
- **Outputs:**

**Intermediate and Final Activities**
- Intermediate Activities ➔ Outputs ➔ Final Customers
  - (transformation)
  - (Implementation)

**Transfer**
- Reductions in
  - Fatalities
  - Injuries
  - Illnesses
National Occupational Research Agenda (NORA)

- NORA Town Hall Meetings
- On-line comments:
  - www.cdc.gov/niosh/nora
- NORA Symposium 2006

National Occupational Research Agenda (NORA)

- Sector Councils
  - Developing national strategic plans
- NORA Symposium
  - July 29, 2008
  - Sheraton Denver West
National Academies Review

- Framework Committee:
  - Review programs, not projects
  - Quantitative and qualitative assessment
- Bottom line:
  - Effectiveness
  - Not a review of processes

Program Evaluation Principles

- Relevance
- Impact
National Academies Review

- Completed
  - Hearing Loss Prevention
  - Mining
- In Progress
  - Ag, Forestry, Fishing
  - Construction
  - Respiratory Disease
  - Traumatic Injury
  - Personal Protective Technology
  - Health Hazard Evaluation (HHE)

Cost:
- $5.6 million to NA
- Staff time, many hours

Benefits
- Forced programmatic thinking
- Focused staff on real-world impacts

Compared to EPA, NSF, NOAA, the NIOSH review was:
- Most costly
- Most rigorous
- Most independent
- Only one of two to get OMB approval
Science Initiatives

- Prevention Through Design (PtD)
- Research-to-Practice (r2p)
- Nanotechnology
- WorkLife
- Sampling Strategy Manual

NIOSH Occupational Exposure Sampling Strategies Manual Update
November 8 and 9, 2007
Washington Court Hotel, Washington, DC

r2p: Personal Dust Monitor
r2p: Lead Disclosing Kit

CDC/NIOSH: FULL DISCLOSURE®
U.S. Patent No. 6,248,593

CDC/NIOSH: Asphalt Pavers Partnership
NIOSH NAPA FHWA
State DOTs IUOE OSHA
AI LHSFNA
r2p: Asphalt Pavers Partnership

Science Policy Issues

- Asbestos Roadmap
  - Measurement: PCM, TEM, STEM?
  - Defining asbestos: amphiboles?
  - Identify fibers: cleavage fragments?
- Occupational Exposure Limits
  - Beyond PEL and REL
  - Use in NIOSH Manual of Analytical Methods
OELs in NMAM: Beryllium

BERYLLIUM and compounds, as Be

<table>
<thead>
<tr>
<th>Method</th>
<th>Evaluation</th>
<th>Issue 1</th>
<th>Issue 2</th>
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<tr>
<td>7102</td>
<td>FULL</td>
<td>15 February 1984</td>
<td>15 August 1984</td>
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</table>

**Properties:**
- Hard, light metal; valence = 2
- MP 1244 to 1300°C
- Not to exceed 0.5 µg/m³ (asbestos cannot be a reason)
- Acidity: 2 µg/m³ (asbestos cannot be a reason)

**Sampling and Measurement:**
- Sampels: FILTER (5.0 µm cellulose ester membrane)
- Technique: ATOMIC ABSORPTION, GRAPHITE FURNACE

**U.S. Regulatory Occupational Exposure Limits (OEL):**
- MSHA: 2 µg/m³
- OSHA: PEL 2 µg/m³ Ceiling: 5 µg/m³
- DOE: 0.2 µg/m³

**Other Published 8-hour Occupational Exposure Limits and Guidelines:**
- Germany: 2 µg/m³
- Argentina, Belgium, Bulgaria, Canada, France, Ireland, Japan, Jordan, Korea, Mexico, The Netherlands, N. Zealand, Philippines, Switzerland, Thailand, Turkey, UK, Vietnam

**OELs in NMAM: Beryllium (new):**

- Beryllium
  - U.S. Regulatory Occupational Exposure Limits (OEL)
    - MSHA: 2 µg/m³
    - OSHA: PEL 2 µg/m³ Ceiling: 5 µg/m³ (30-min max peak)
    - DOE: 0.2 µg/m³
  - Other Published 8-hour Occupational Exposure Limits and Guidelines
    - Germany: 2 µg/m³
    - Argentina, Belgium, Bulgaria, Canada, France, Ireland, Japan, Jordan, Korea, Mexico, The Netherlands, N. Zealand, Philippines, Switzerland, Thailand, Turkey, UK, Vietnam
    - Czech Republic, Russia, Denmark, Hungary, Norway, Poland
    - China: 0.1 µg/m³
    - NIOSH REL: 0.5 µg/m³
REL and IDLH Summary

- NIOSH has issued 677 RELs
  - Most comprehensive treatment given to those issued in a Criteria Document
  - Many adopted by testimony during the PEL Project
- NIOSH has developed an issued 385 IDLHs
- OSHA has issued 471 PELS

Compare this with the current state in the US
- Approx. 90,000 chemicals on TSCA inventory
  - Approx. 9,000 produced in ‘commercial’ quantity
  - Approx. 2,200 are High Production Volume

Authoritative Recommendations

- Criteria Documents
  - TiO₂
  - Cr VI
  - Bromopropane
  - Gluteraldehyde
  - Skin Notations
- IDLH’s
Emerging Issues

- Mining
  - Underground communications
  - Refuge chambers
- Flavorings research (diacetyl)
- Respirator Certification:
  - Closed-Circuit Escape Respirator (CCER)
  - Powered Air Purifying Respirator (PAPR)
  - Total Inward Leakage Testing (TIL)

Emerging energy issues

Photo Credit: Dino Mattarano, NIOSH
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