

Occupational Public Health in the States

“Surveillance to Practice”

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Today's Objective's

- Discuss role of States in occupational health surveillance ...and intervention
- Identify key challenges
- Promote NIOSH/State partnerships to address NORA sector and NIOSH program goals

Public Health Surveillance

- Ongoing, systematic collection, analysis, and interpretation of health data
- Dissemination of these data to those who need to know for the purposes of prevention.

*“follow up to see that action
has been taken”*

Types of Occupational Health Data

- Health endpoints
 - Work-related injuries
 - Illnesses
 - Biologic measures of exposure
- Hazards
- Interventions

Types of Surveillance Systems

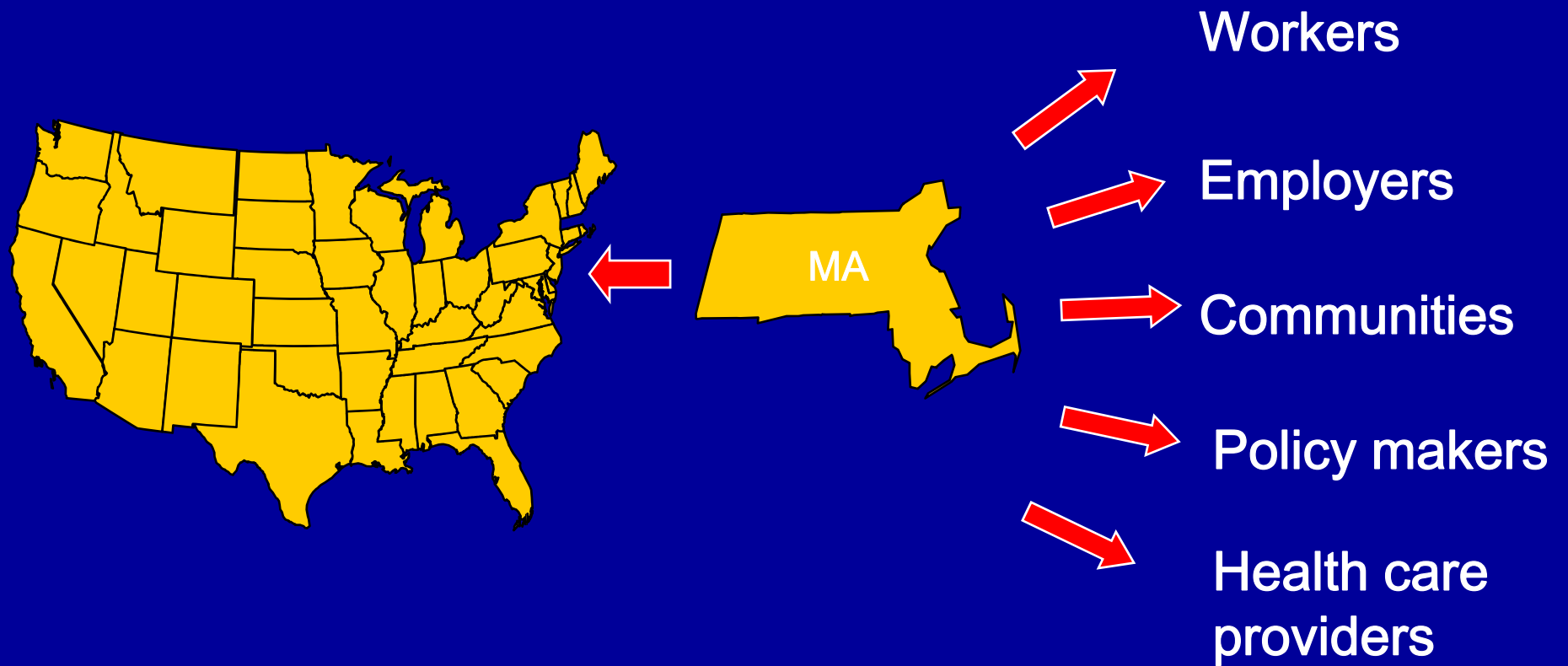
- Case-based
- Population-based

Purpose of OH Surveillance

- Target interventions and inform prevention priorities
 - Worksites, high risk industries, occupations, and populations, hazards, emerging problems
- Evaluate intervention efforts
- Identify potential risk factors and generate hypotheses for further research
- Raise public awareness and influence policy makers

WHAT GETS COUNTED GETS DONE

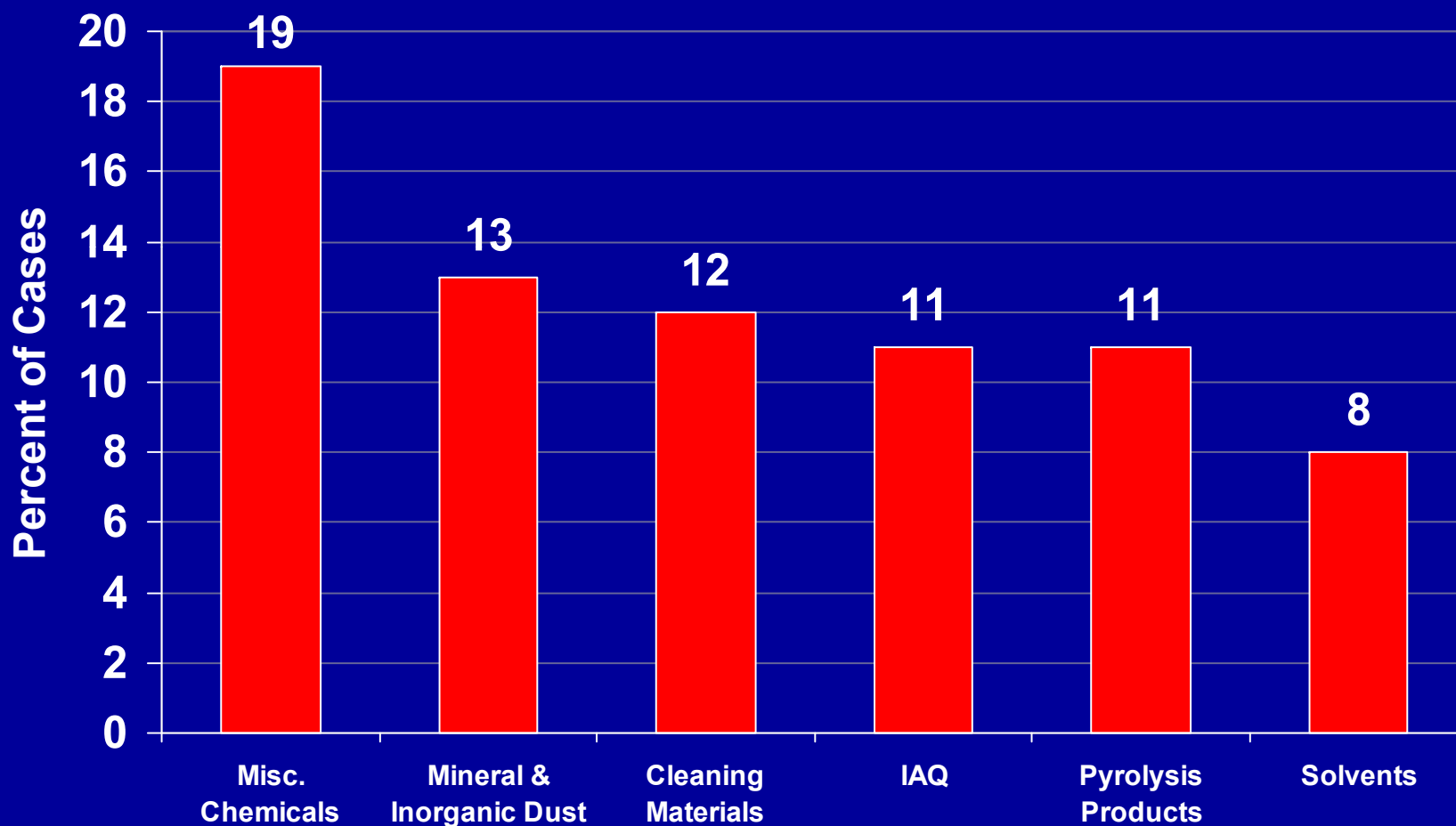
States Play Pivotal Role in Surveillance



Role of States in Occupational Health Surveillance

- Provide critically needed data on occupational diseases

Leading Agents Associated with Work-Related Asthma Cases, 1993-2002*

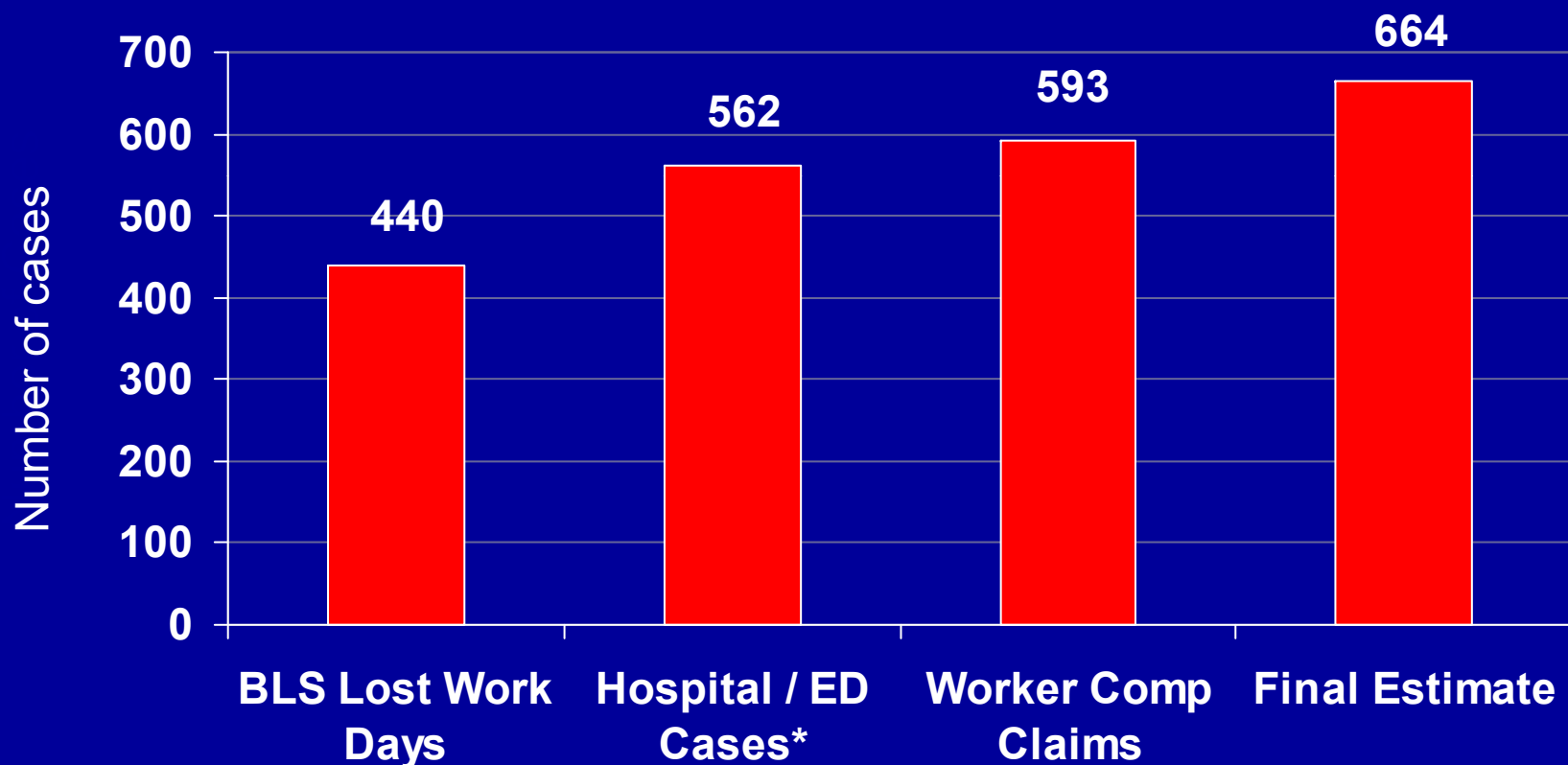


*SENSOR asthma states: CA, MA, MI, NJ

Role of States in Occupational Health Surveillance

- Provide critically needed data on occupational diseases
- Evaluate and augment conventional occupational health data sources

Estimates of Work-Related Amputations, Michigan, 1997



Person match between BLS Annual Survey and Worker's Compensation claims, injuries 7 days away from work, Michigan, 1999-2001

		Workers' Compensation		
		Yes	No	
Annual Survey	Yes	11,850	14,442	(33%)
	No	39,728	(14,399)*	
		(64%)		80,399

*Capture-recapture estimated total

Source: Rosenman et al, JOEM 2006

Statewide household surveys to assess use of workers' compensation, OR and WA, 2002

	Reporting work-related injury or illness	Filed WC claims
Oregon 2002*	8.1%	52.7%
Washington BRFSS 2002	12.8%	51.5%

*Oregon Population Survey 2002

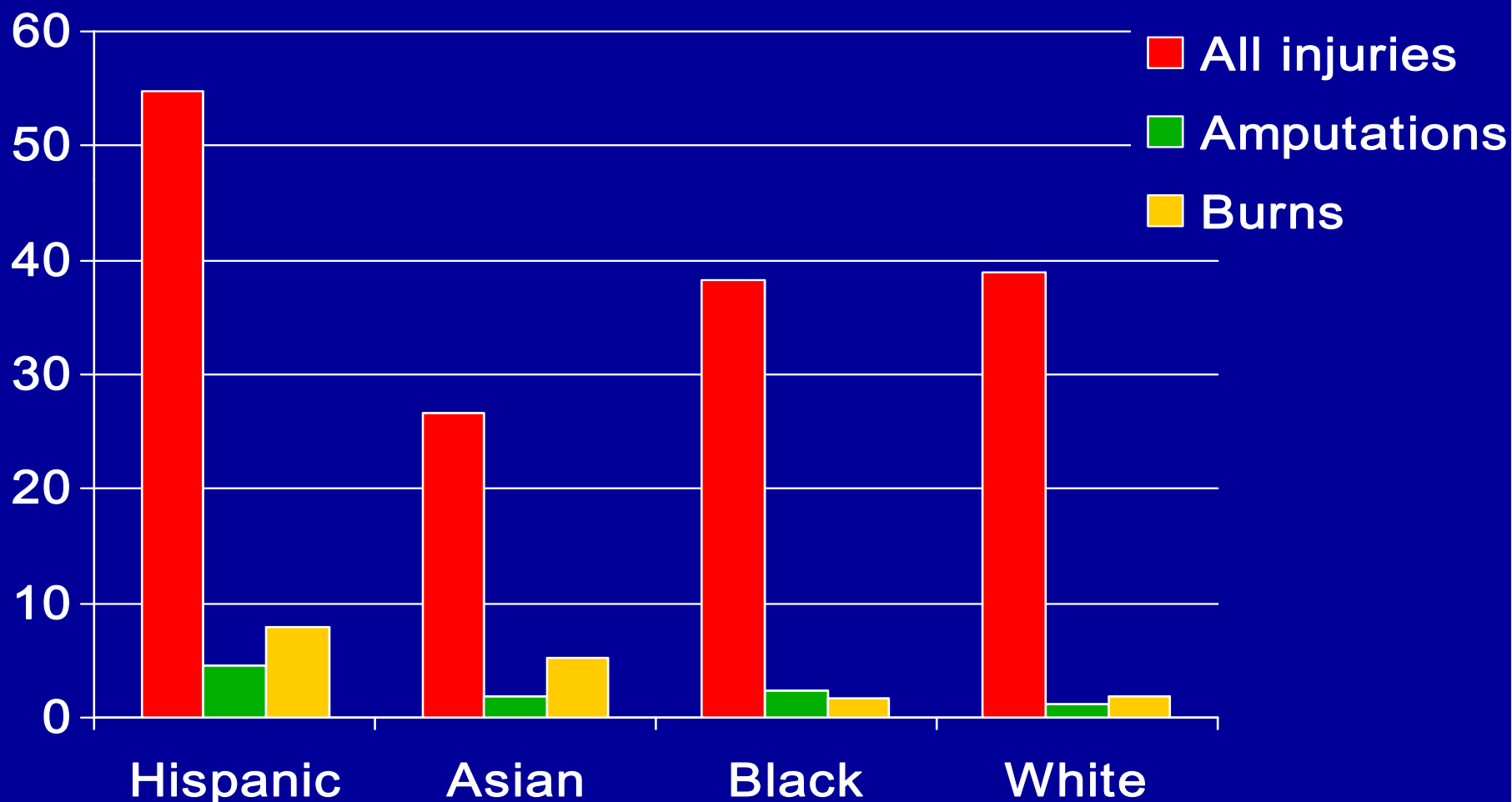


Use of the BRFSS to assess use of the workers' compensation system

- Have you been injured at work in last 12 months?
- If yes, who paid for it?
- If you did not file a workers' comp claim, why not

9 States asking these questions in 2007

Work-Related Hospitalizations by Race and Ethnicity, Massachusetts, 1996-2000



Hunt et al. *Monthly Labor Review*, 2005

Role of States in Occupational Health Surveillance

- Provide critically needed data on occupational diseases
- Evaluate and augment conventional occupational health data sources
- Link surveillance findings with intervention at the state and local levels

Comparison Average Blood Lead Change From 1997-2000 to 2001-2003 vs. Pre to Post OSHA Inspection, Michigan

	µg/dl	Change
1997- 2000	16.0	- 1.9 µg/dl
2001-2003	14.1	
Pre OSHA	21.9	- 6.1 µg/dl
Post OSHA	15.8	

New Jersey FACE

- Investigation of electrocution death



- Prompted NJ regulations on electrical inspections of swimming pools



WARNING!

Electrocution Hazard for Employees at Public Swimming Pools

The New Jersey Department of Health (NJDOH) is alerting owners and employees of public swimming pools to a serious electrical hazard. The NJDOH recently investigated a death that may have been prevented if the pool electrical system had been inspected by a licensed electrician or protected with a ground fault circuit interruptor.

Fatality Investigation #94-NJ-090

On June 14, 1994, a 20 year-old college student was electrocuted at a public swimming pool where he was working as a lifeguard. He had just checked in for work and had taken a brief swim before going into the pump room to begin his maintenance duties. As he reached over a water pump to adjust the chlorine flow, his leg contacted the metal pump housing that had been energized with 220 volts. He cried out for help before falling unconscious on the pump room floor. Despite rescue efforts, he died two hours after the incident. An examination of the pump by an electrical inspector found that the equipment did not meet current electrical codes. The pump motor and wiring were not adequately grounded and were not approved for wet locations. The pump became energized when a wire contacted the metal housing and energized it. The 20 year-old equipment had not been inspected or maintained for at least 10 years.

Notice to all Swimming Pool Owners and Operators

- All public swimming pool electrical systems should be inspected by a licensed electrician.

In this incident, the pump house electrical equipment had not been inspected for at least ten years. As water and chlorine will corrode metal fittings and wiring, it is important that

public swimming pool electrical systems be inspected by a licensed electrician. This inspection should include an examination of all electrical bonds and grounds as well as the pumps and other electrical equipment. The NJDOH recommends that the inspection is done before the pool opens for the season.

- Swimming pool electrical systems should be fitted with ground fault circuit interruptors.

A ground fault circuit interruptor (GFCI) is a fast-acting circuit breaker that can detect even small electrical faults and shut off the electricity in a fraction of a second. GFCIs can be installed in the main breaker box to protect the entire electrical system. The National Electrical Code requires GFCI protection in certain applications, such as for lights and electrical receptacles located near the swimming pool. Although the National Electrical Code does not require GFCIs for most pool pump motors, the NJDOH recommends installing them as an additional safety measure. It should be noted that GFCIs must be installed by a licensed electrician and may not be appropriate for all pump motors.

NOTE: While the inspection by a licensed electrician and installation of GFCIs on pump motors are not required for existing facilities under current state regulations at this time, they are strongly recommended for older swimming pools to prevent electrical injuries.

For More Information, Call or Write to:

NJ Department of Health Fatality Assessment and Control Evaluation (FACE) Project CN 360 Trenton, NJ 08625-0360 (609) 984-1863	NJ Department of Health Public Health Sanitation & Safety Program CN 369 Trenton, NJ 08625-0369 (609) 588-3124	NJ Department of Community Affairs Bureau of Technical Service CN 819 Trenton, NJ 08625-0819 (609) 530-8793
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INSPECT YOUR FACILITY!
**HAVE A LICENSED ELECTRICIAN BRING YOUR ELECTRICAL SERVICE
UP TO DATE!**

New Jersey Department of Health
Occupational Health Service
CN 360 | Trenton, N.J. 08625-0360
(609) 984-1863

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Teens at Work Project Massachusetts

- Worksite follow-up of amputation in school shop class



- Changes in statewide school safety policy

INJURY INVESTIGATION REPORT
Occupational Health Surveillance Program
August 2003 Vol. 6, No. 2
Massachusetts Department of Public Health

FACE Facts



A 15-Year-Old Student Amputates Fingers While Operating an Unguarded Table Saw in Woodworking Class - Massachusetts

Industrial arts provides students with important opportunities to learn technical skills and introduces them to the work environment. Occupational safety and health is a crucial component of this work preparation, both for safety in the school shop and to develop safe work skills for the future.

Incident: In 2003, a 15-year-old student amputated one left finger (both joints) and a portion of another left finger and thumb while operating an unguarded table saw in a woodworking class at a school. The saw, manufactured in 1991 and equipped with a 10-inch woodworking blade, was located in the woodworking shop, near the shop door. The student was making a lengthwise cut (ripping) and reached around to the back side of the unguarded saw blade to grab the cut piece of wood. The student's two fingers and thumb came in contact with the rotating saw blade, resulting in the serious injuries to the left hand.



Guarded Tablesaw

To prevent similar incidents, schools that have woodworking shops should:

- Ensure that the manufacturers' supplied guards are installed on all table saws, and that the guards function properly and are used at all times.
- Position tables at the backside of saws to prevent the work pieces from falling off the saws and onto the floor.
- Design the woodworking shop layout to reduce distractions to equipment operators.
- Provide woodworking class conditions that at a minimum meet safety and health standards set by the Occupational Health and Safety Administration (OSHA) and train students about these standards.

REFERENCES

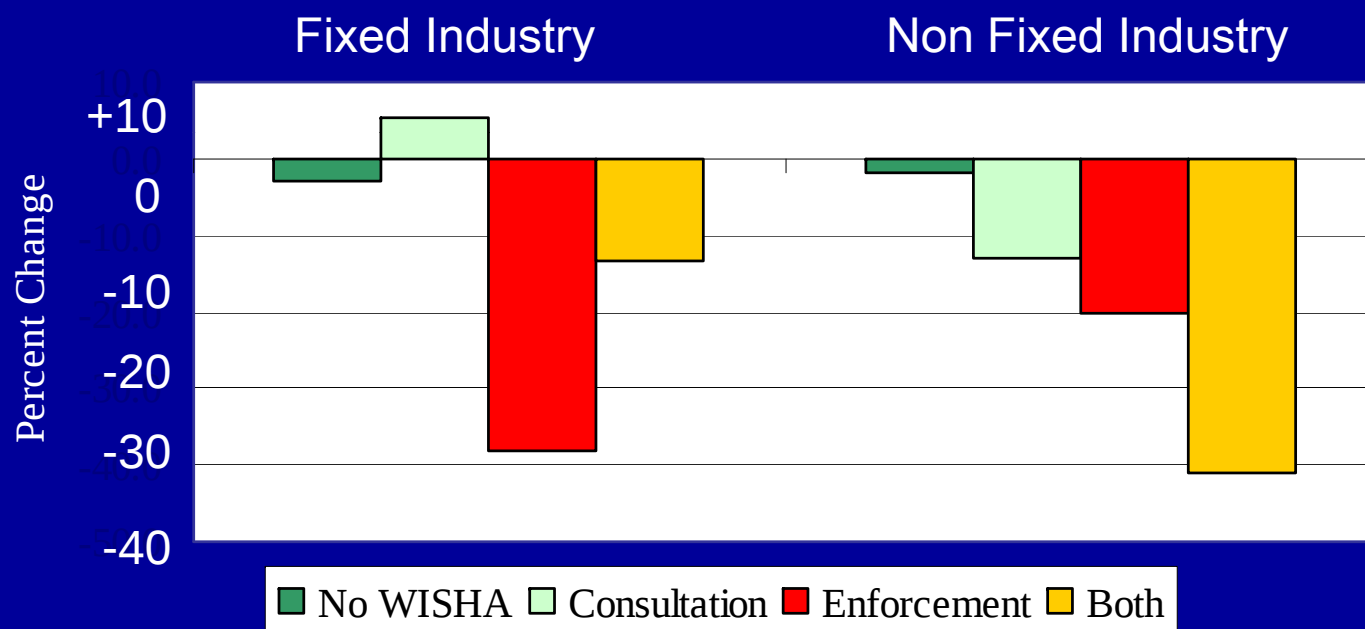
Code of Federal Regulations, 29 CFR 1910.213, Machinery and Machine Guarding, Woodworking machinery requirements.
U.S. Department of Labor, Occupational Safety and Health Administration, Small Business Safety Management Services, A Guide for Protecting Workers from Woodworking Hazards, OSHA 3157 1000.
Delta International Machinery Corporation, Instruction Manual, Ten-inch Contractor's Saw, Model, 34-444, 10-15-91.
National Safety Council, Safeguarding Concepts Illustrated 6th Edition, 1995.

Build Safe California: Conducting Effective Tailgate Training

- Data identified construction as priority as priority
- Project developed with construction industry stakeholders
- Tail gate training curriculum and half-day trainings reached >1300 contractors & foremen statewide



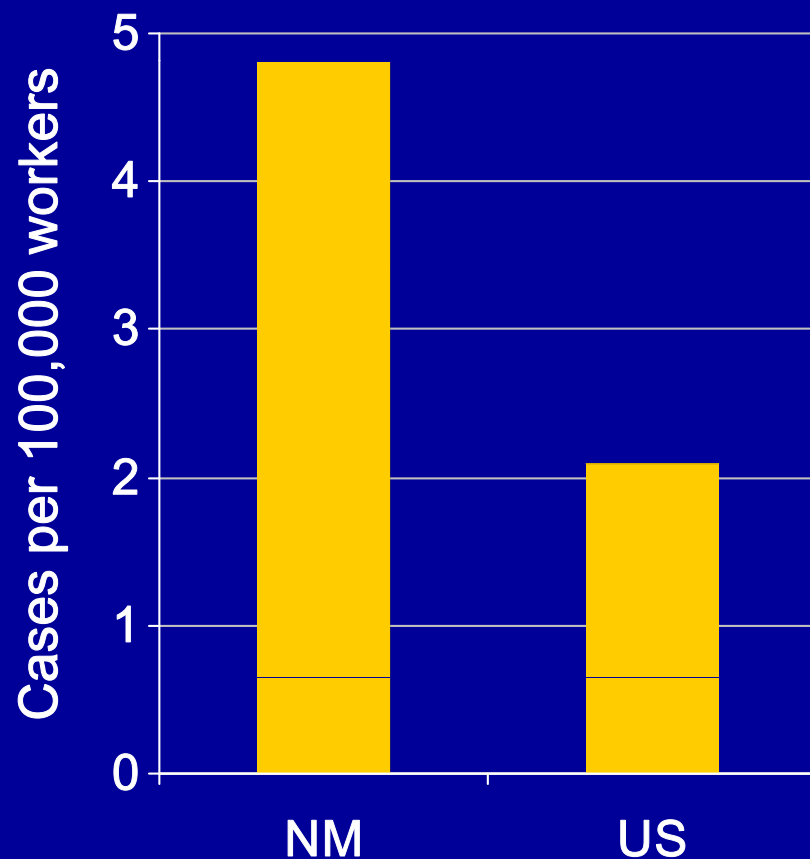
% Change in Compensable Claim Rates after OSHA Enforcement and/or Consultation, Washington State, State Fund Establishments, 2001-2002.



Sources: Bags. Am J Ind Med. 2003 43(5); Fan Z et al.; SHARP Technical Report 70-3-2003

Occupational Health Indicator: Pesticide Poisoning in New Mexico

Rate of Work-Related
Pesticide Poisonings, 2000



- Higher proportion of disinfectants in SE part of the state



- Trainings promotoras and community health care providers in SE
- Request to assist in developing education trainings for pecan growers regarding integrated pest management.

Why States Make Good Intervention Partners

- Access to workplaces & communities
- Developed relationships with stakeholders
- Established mechanisms for dissemination
- Opportunities to use the existing public health infrastructure

Use of State Public Health Infrastructure Can Extend our Reach

- **Convergence**

Opportunities where occupational health and other public health domains clearly intersect

- Hazards that impact workers and the general public (shared hazards) e.g. latex, indoor air,
- Health conditions with multiple etiologies including occupational factors, e.g. asthma, CVD, cancer, injury

- **Access**

Opportunities to reach underserved populations and workplaces

- Provide health and safety education and services
- Collect information about health and safety needs

Public Health Programs Serving Special Worker Populations, Massachusetts Department of Public Health (MDPH)

Low Income Women

Women's Health Network
Well Women's Project
WIC

Teens

Adolescent Health
School Health
Substance Abuse Program

MDPH

Elderly

Office of Elder Health
Injury Control

Persons with Disabilities

Office of Health and Disabilities

Immigrants

Refugee & Immigrant Health
Community Sanitation – Labor
camps

Minorities

Chronic Disease Prevention
Men's Health Program
Office of Minority Health

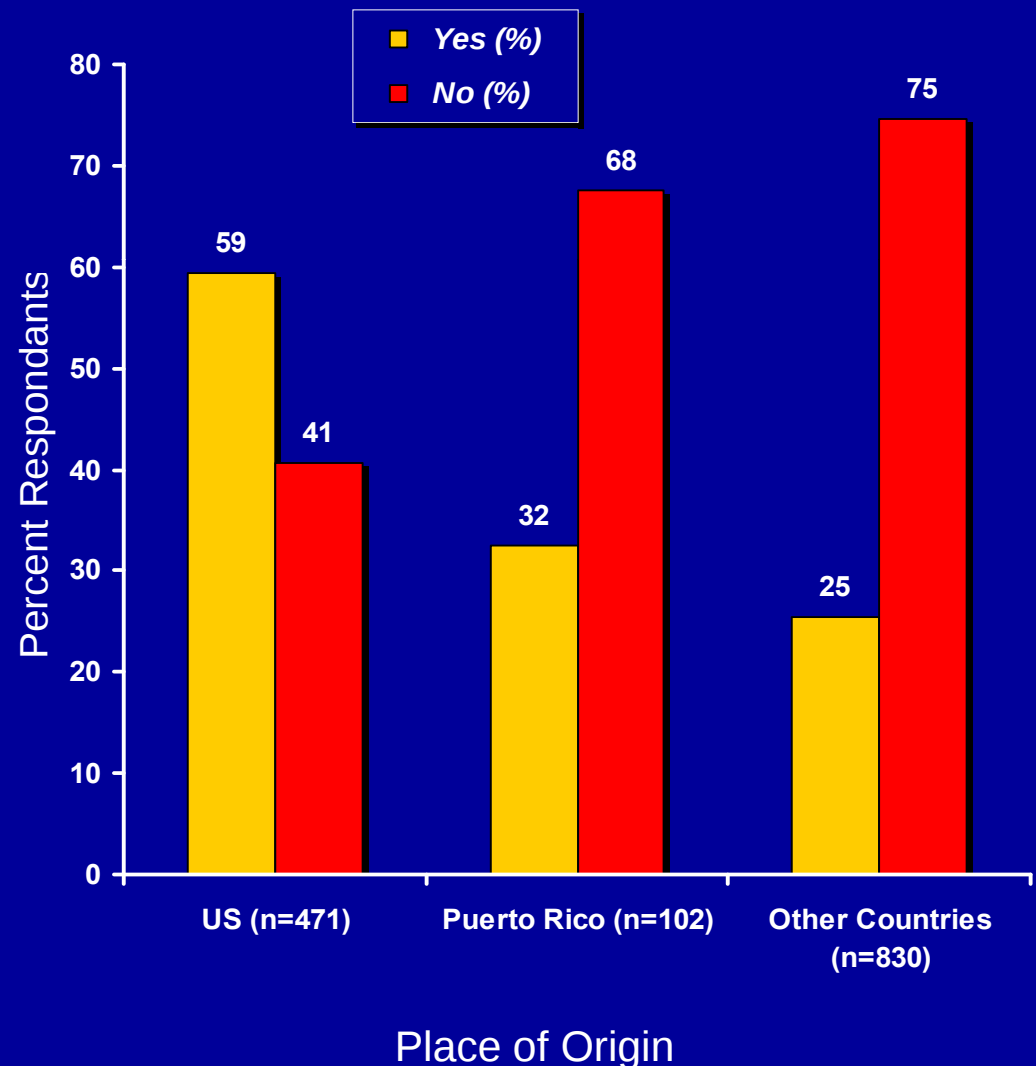
Survey of Community Health Center Patients, Massachusetts (N=1403)

Awareness of OSHA

OSHA is the government agency that is responsible for making sure that workplaces are safe. Workers can call OSHA and make a complaint about their workplaces without their boss knowing who made the complaint. Before today, had you heard of OSHA?

☐ 1. Yes

☐ 2. No



Access to Underserved Workplaces

MDPH

Health Care

Bureau of Health Care Quality
Emergency Medical Services
Oral Health
Nurses Aid Registry
Radiation Control
Bureau of Communicable Disease
Control
Drug Control Program
Prescription Monitoring Program
Bureau of Hospitals
Community Sanitation

Public Sector

Community Health Promotion
Firefighter/Police Wellness Program
Environmental Health
Schools and other public buildings

Food Establishments

Food Protection Program
Center Communicable Disease
Control

Childcare

Max Care

Challenges for NIOSH and States

- Limited resources
- Balancing surveillance and intervention activities (*research and diffusion*)
- Melding state and national priorities

end

A Problem: Gap in the Federal Infrastructure

- OSHA:predominantly a regulatory agency
- NIOSH: predominantly a research agency
- Missing federal mandate for support of state and local occupational health practice

Intervention Options

- Referrals to regulatory agencies
- Non-regulatory worksite evaluations
- Disseminate information and recommendations
- Partner with industry, unions, community and health care organizations, health care providers
 - Educational programs
 - Promote policy and technology change

Resource Recommendations

- Interagency partnerships at federal level to support integrated activities in the states
- OH research initiatives to take advantage identified opportunities
- Longer range strategy to develop core occupational health capacity in state health agencies
 - Further explore links with development of environmental health, chronic disease and injury core

Training Recommendations

- Integrate OH into other public health curricula
 - Schools of public health
 - Non-traditional health schools, e.g. social work
- Train masters level OH specialists to fill state & local positions
- Establish formal links between academic OH research/ training programs & state health agencies
- Conduct continuing education in OH for state health department staff (issue oriented)

Purpose of Occupational Health Indicators

- Allow states to compare their OH status with other states & nation and within state over time
- Build core capacity for occupational health surveillance at state level
- Promote program and policy development to protect worker safety and health

Conclusions

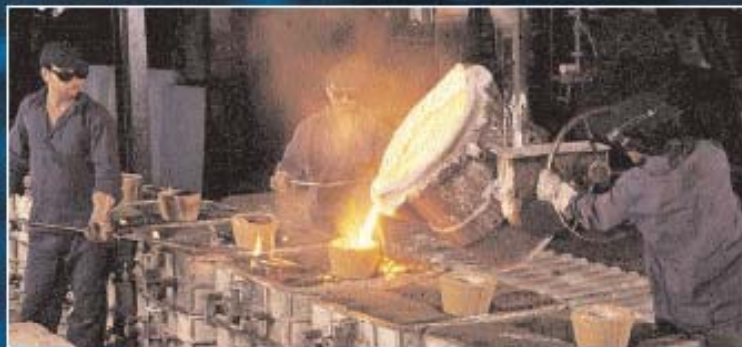
- There are numerous untapped opportunities to reach underserved populations and workplaces.
- We need:
 - Stronger links between public health and occupational health communities to enhance converging activities
 - Training cross-disciplines and of OH specialists
 - Core occupational health programs within state health departments, and resources.
 - To address occupational health of public health workers

Purpose of Occupational Health Indicators

- Allow states to compare their OH status with other states & nation and within state over time
- Build core capacity for occupational health surveillance at state level
- Promote program and policy development to protect worker safety and health

REPORT 2000

Occupational Health Indicators



Results from
Thirteen States
for 2000



**COUNCIL OF STATE
AND TERRITORIAL
EPIDEMIOLOGISTS**

In Collaboration with:
National Institute for
Occupational Safety
and Health
Centers for Disease
Control and Prevention

Person Match Between BLS Annual Survey and Workers' Compensation Claims, Michigan 1999-2001

BLS	WC	Number of Individuals 1999-2001 with >7 Days Away From Work Average (range)
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Injuries

Yes	Yes	11,850 (8,231-15,683)
Yes	No	14,442 (12,089-15,704)
No	Yes	39,728 (36,746-44,189)
No	No	14,379 (7,669-17,748)
Total		80,399 (68,350-89,105)
(Std. error)		(3,589)

Illnesses

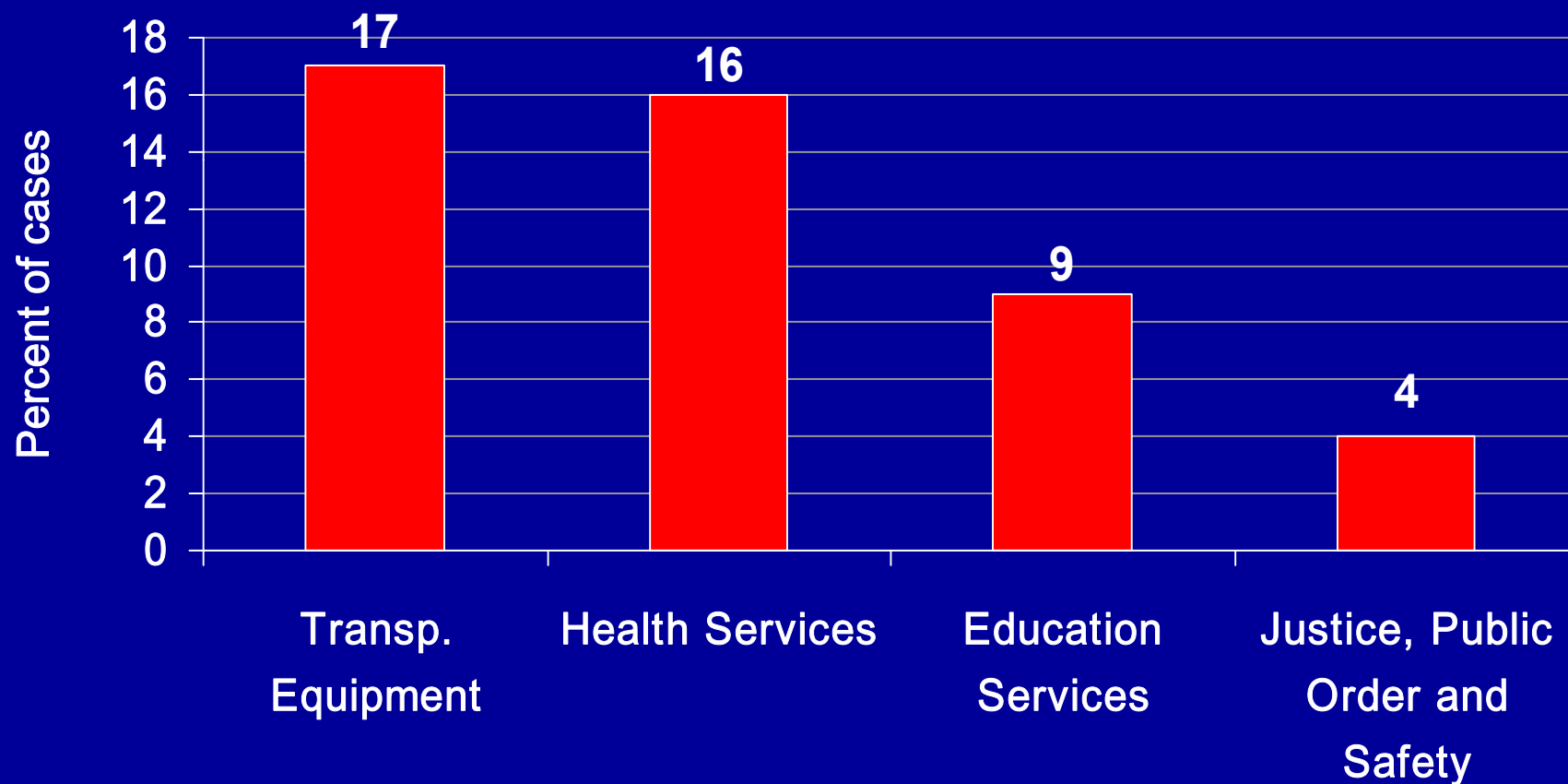
Yes	Yes	1,835 (794-2,799)
Yes	No	2,673 (2,373-3,259)
No	Yes	8,851 (7,796-9,890)
No	No	1,275 (567-1,943)
Total		14,634 (12,617-17,891)
(Std. error)		(487)

(Rosenman et al, JOEM 2006)

Impacts at State Level

- Intermediate impacts
 - Policy change
 - More effective OSHA inspections
 - Technology change
 - Use of products by partners
 - New partnerships; strengthening infrastructure for occupational safety and health.

Leading Industries Associated with Work-Related Asthma Cases, 1993-2003*



*SENSOR asthma states: CA, MA, MI, NJ