Is OSHA Working for Working People?

Statement of
David Michaels, PhD, MPH
Research Professor and Acting Chairman
Department of Environmental and Occupational Health*
The George Washington University
School of Public Health and Health Services, and
Director, Project on Scientific Knowledge and Public Policy
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*2100 M Street NW, Suite 203
Washington, DC 20037
Email: eohdmm@gwumc.edu
Website: www.DefendingScience.org

My name is David Michaels. I am an epidemiologist. I am Research Professor and Acting Chairman of the Department of Environmental and Occupational Health at The George Washington University School of Public Health and Health Services, and Director of the Project on Scientific Knowledge and Public Policy (SKAPP). From 1998 to January 2001, I served as Assistant Secretary of Energy for Environment, Safety and Health, and was responsible for protecting the health of workers, communities and the environment around the nation's nuclear weapons facilities.

I would like to thank Chairperson Murray, Ranking Member Isakson and the other members of the committee for inviting me to testify here today.

The number and cost of preventable work related injuries and illnesses occurring in the United States are unacceptably high. Furthermore, the true incidence of these conditions is far higher than reported by the Bureau of Labor Statistics since these data do not include approximately two-thirds of occupational injuries and illnesses.

Work related injuries and illnesses are a significant problem – large numbers of workers are injured, disabled or even killed on the job. What is most troubling is that the vast majority of these are preventable. The Bureau of Labor Statistics (BLS) reports that in many private sector manufacturing jobs, a worker has an annual risk of being injured of about one in seven or one in eight. The industries where workers have injury rates 2-3 times higher than the rates for the entire private sector include truck trailer[1] and camper manufacturing,[2] iron foundries and truss manufacturing.[3] Higher than average injury rates are not confined to manufacturing jobs; workers in hog farming, construction framing and nursing homes are examples of groups with dramatically higher risk of work-related injury.[4]

As distressing as these statistics are, however, it is likely that the true incidence of workplace injury and illness is far higher than BLS reports, since the Labor Department's estimates clearly and dramatically underestimate the number of workers injured.

NIOSH-funded researchers at Michigan State University, led by Dr. Kenneth Rosenman, applied a capture-recapture methodology to identify the portion of those occupational injuries and illnesses reported to the workers compensation and other systems are also captured in the

BLS reporting system that serves as the basis for national statistics on workplace injury and illnesses – and widely used to make statements about both the need for and success of OSHA. The researchers found that BLS statistics include only about one-third of all work-related injuries and illnesses. Two-thirds are simply missed.[5] (This is not the first study to report this problem. An earlier study by a different group of researchers estimated the BLS missed between 33% and 69% of all injuries.[6])

How does this translate into the risk faced by individual workers? Using the comprehensive estimate of work-related injuries and illnesses, the Michigan State researchers estimated that one in every five workers in Michigan develops a work-related injury or illness (although this figure may be somewhat inflated because some workers have more than one injury or illness per year). If only the BLS underestimate was used, it would appear that the risk was only one in 15.

This approach is useful in estimating the true incidence of work-related injury, but this method cannot overcome the structural impediments to collecting accurate data on occupational illnesses. Most occupational illnesses that are caused by toxic exposures are never recorded as work-related, either because they occurred after the worker left the employment where the exposure occurred or because the link with occupational exposure was never made.

OSHA enforcement does not appear to be effective in further reducing injury rates. While BLS reports a decrease in injury rates, sophisticated statistical analyses indicate that most of this decrease can be attributable to changes in OSHA recordkeeping rules.

Even with the limitations of the BLS data system, it seems reasonable to conclude that OSHA has made an important contribution to reducing work-related fatalities, since these are the workplace events most likely to be reported in BLS system. The occupational fatality rate has dropped from 10 (per 100,000 workers) in 1974[7] to 4 in 2005 (although part of this decrease may be attributable to the changes in recording rules discussed below).[8] Despite this improvement, this still means that about 16 U.S. workers die each day on the job from preventable causes like falls from elevated platforms, trench collapses, explosions, violence, and vehicle crashes.[9]

Using data from the Survey of Occupational Injuries and Illnesses, based on OSHA logs, BLS reports that the rate of occupational injuries and illnesses has been declining steadily for the

last 15 years, with a 35.8% decrease seen between 1992 and 2003. Given the decrease in manufacturing and mining jobs and the general shift in the US economy to less hazardous jobs, combined with the decrease in OSHA's regulatory activities (the number of OSHA inspectors decreased from 1300 to 1100 between 1990 and 2003), observers have questioned whether the reported drop in injury rates could be attributed to OSHA's enforcement activities.

A sophisticated analysis of BLS data by two University of Illinois scientists, just published online by the journal *Occupational and Environmental Medicine*, attributes 83% of the decline in workplace injuries and illnesses between 1992 and 2003 to changes in OSHA record-keeping rules.[10] These findings are supported by the results of a different study by the same researchers who found that from 1995 to 2003, there was no drop in occupational traumatic injuries reported to the Illinois Trauma Registry.[11]

In terms of occupational illnesses, OSHA has been successful in reducing exposures to certain widely recognized chemical hazards, and as a result, has unquestionably saved thousand of lives. Before OSHA issued its first asbestos standard, uncontrolled exposure to this carcinogen was widespread. The OSHA lead standard has no doubt prevented many cases of lead poisoning. The OSHA cotton dust standard eliminated byssinosis, a once common disease among U.S. textile workers.[12] But these successes from decades past should not distract us from the reality of today's occupational health problems. There are huge gaps in OSHA standards and, for the chemical hazards that OSHA does regulate, the permissible exposure limits are distressingly out of date.

OSHA currently enforces permissible exposure limits for only about 500 chemicals, a small fraction of the thousands of substances present in the American workplace. OSHA even lacks standards for some of the more common chemicals; there are OSHA standards for fewer than 200 of the approximately 3,000 chemicals characterized by the EPA as High Production Volume (more than a million pounds of the substance is produced or imported each year). In the more than 35 years since OSHA began it has issued new standards for only about 30 substances.

The remaining exposure limits were adopted by OSHA in 1970, from the recommendations of private voluntary organizations like the American Conference of Governmental Industrial Hygienists (ACGIH). Many of these exposure limits were already out of date in 1970, when OSHA adopted them. Moreover, these are not comprehensive standards

with requirements for employers to conduct exposure monitoring, provide medical surveillance or worker training, but only exposure limits. As a result, for most hazardous chemicals, OSHA's standards are either inadequate or totally absent.

One could write a book about the hazards that OSHA has failed to regulate adequately. Here are a few examples:

Beryllium[13]

Beryllium is a remarkable metal, lighter than aluminum yet stiffer than steel. Its alloys and compounds exhibit a host of unusual technical characteristics. At some point in almost every production process involving beryllium, fine dust or fumes of the metal or its compound are released into the air. Breathing the tiniest amounts can cause disability and death from chronic beryllium disease. This metal is a vital component of nuclear weapons; for many years, the US Department of Energy (DOE) was the largest consumer of beryllium in the US. The current OSHA beryllium standard, 2 ug/m^3, was calculated by two Atomic Energy Commission scientists sitting in the back seat of a taxicab in 1948. By the early 1990s, DOE recognized the standard was not adequately protective. In 1999, during the period I was Assistant Secretary, DOE issued a new standard 10 times stronger.[14] At the time, OSHA acknowledged that DOE was doing the right thing with its radically restrictive beryllium standard. Almost nine years ago, the Assistant Secretary of Labor for OSHA wrote, "…we now believe that our 2 ug/m^3 PEL does not adequately protect beryllium-exposed workers from developing chronic beryllium disease, and there are adequate exposure and health effects data to support [DOE's] rulemaking." The letter continued:

> Cases of chronic beryllium disease have occurred in machinists where 90% of the personal exposure samples found levels of beryllium to be below the detection limit of 0.01 ug/m^3. …Viewed from OSHA's regulatory perspective, these DOE study results document risk of sensitization to beryllium of 35-40 per 1,000 workers and risk of chronic beryllium disease to machinists of 94 per 1,000.[15]

There is really no do longer any debate over the inadequacy of the OSHA beryllium standard. The beryllium industry has acknowledged that the current OSHA standard of 2 ug/m^3 is

not adequately protective – the industry's experts recognize that workers get sick at exposure levels below the current OSHA standard.[16]

In 2000, OSHA committed itself to issuing a more protective standard, this time by the end of 2001,[17] but in 2001, early in the first term of the George W. Bush Administration, the agency did a quick about-face and announced that the agency needed "a substantial amount of information" before it would consider new regulation.[18] Today, the federal government finds itself in the embarrassing position of explaining why the employees of DOE and its contractors are now covered by a workplace rule ten times more protective than the one covering workers in the private sector.

Hexavalent Chromium[19]

Since coming into office, the Bush Administration has issued only one new standard protecting workers from a hazardous chemical: hexavalent chromium (CrVI). The standard was issued only because a federal court decision required OSHA to do so. Until last year, OSHA's standard was 52 ug/m^3; the new standard is 5 ug/m^3. This is certainly an improvement, although OSHA itself estimates that for every 1000 workers exposed to 5 ug/m^3 for a working lifetime, between 10 and 45 will develop lung cancer.

By the early 1950s, there was plenty of evidence that hexavalent chromium was a lung carcinogen. The old standard of 52 ug/m^3 was based on data that predated even these 1950s studies. The old standard came from a 1943 recommendation by the American National Standards Institute, applying data contained in reports from the 1920s. The 1943 recommendation was chosen because it provided a level of chromium exposure that would not result in holes developing in the nasal septum of exposed workers.

When OSHA was starting out in the early 1970s, the cancer risk of CrVI was well-understood. The new agency adopted the old voluntary limit, but recognized a change was necessary. In 1975, NIOSH urged a limit of 1 ug/m^3, basing this recommendation on dozens of studies, which were remarkable at the time for their focus on this single carcinogen. Today, OSHA estimates that more than 500,000 U.S. workers are exposed to CrVI.[20] It took 30 years and a court order for OSHA to issue a new standard, albeit one allowing exposure five times higher than NIOSH recommended in 1975.

Diacetyl[21]

Diacetyl is a commonly used food flavoring and is the primary constituent of artificial butter flavoring. There is compelling scientific evidence linking occupational exposure to diacetyl to *bronchiolitis obliterans*, a rare, debilitating and sometimes fatal lung disease. On April 26, 2002, exactly five years before the date of this hearing, NIOSH published a widely-disseminated report about the risk of bronchiolitis obliterans in microwave popcorn factories. Dozens of workers at factories where these flavors are produced, mixed or applied have become sick, and at least three workers have died. Others are awaiting lung transplants. While the index cases were seen at microwave popcorn factories, scientists now recognize a health risk to thousands of other food industry employees using diacetyl in manufacturing both artificial flavorings and associated products including candy, pastries, and frozen foods. The California Department of Health Services, for example, recently reported twenty new cases of respiratory impairment at factories where flavorings are produced; one of the first cases reported in California was in a worker exposed mixing flavors for dog food. NIOSH is currently investigating 15 cases of respiratory disease, including some workers with bronchiolitis obliterans, among the employees at a single Cincinnati, Ohio flavor manufacturing plant.

In July of 2006, the United Food and Commercial Workers Union (UFCW) and the International Brotherhood of Teamsters petitioned OSHA for an emergency temporary standard to protect workers from diacetyl. SKAPP organized a letter to the Department of Labor, signed by 42 of the nation's leading occupational health scientists and physicians, in support of the union petition.

OSHA's response to this occupational health crisis has been minimal, at best. Two days ago, perhaps in anticipation of the congressional hearings this week, OSHA announced a "national emphasis program (NEP) to address the hazards and control measures associated with working in the microwave popcorn industry where butter flavorings containing diacetyl are used."[22] OSHA's decision to focusing a NEP solely on the microwave popcorn industry is misguided at best and cynical at worst. By limiting the program to microwave popcorn facilities, OSHA has chosen to use its limited resources in the one industry where NIOSH has already done extensive work assisting employers in controlling diacetyl exposure. Government scientists know more about exposures in popcorn plants than those in any other type of factory. Moreover,

popcorn plants are among the few factories in the country where exposure is likely being well-controlled, since they have been the subject of a tremendous amount of work by NIOSH. Cases of *bronchiolitis obliterans* have been identified among workers that manufacture and mix flavorings, as well as in bakeries and snack food factories. OSHA makes no mention of visiting any of these factories.

One of the agency's extremely important enforcement tools is—or should be—the "general duty clause"[23] that asserts the obligation of employers to provide safe working conditions. Until a few years ago, OSHA inspectors encountering situations in which there was an obvious hazard but no applicable OSHA standard would cite this clause as the legal basis for their enforcement actions. Now this is rarely done. The clause has not been invoked in the case of diacetyl, even though such a notorious airborne hazard that has caused dozens of workers at numerous facilities to contract a serious lung disease would appear to be a logical candidate for such action. Instead, in this case OSHA officials have taken the position that hazards for which there is no applicable OSHA standard do "not fall within OSHA's jurisdiction."[24]

Ergonomic Hazards

Work-related musculoskeletal disorders (MSDs) constitute the largest work-related injury/illnesses problem in U.S. workplaces, accounting for fully one-third of occupational injuries and illnesses reported to BLS.[25] OSHA first issued voluntary ergonomic guidelines for the meatpacking industry in 1990, and then-Secretary of Labor Elizabeth Dole introduced them by explaining:

> "These painful and sometimes crippling illnesses now make up 48 percent of all recordable industrial workplace illnesses. We must do our utmost to protect workers from these hazards, not only in the meat industry, but all U.S. industries."

In 2001, the last year in which the information was collected, a meat packing worker was thirty times more likely to develop a repetitive stress injury (RSI) than the average private sector worker.[38]

In late 1999, OSHA proposed a comprehensive standard to protect more than 27 million workers from ergonomic injuries. The agency conducted nine weeks of public hearings and amassed a record of hundreds of scientific studies on the association between physical exposures

in the workplace (e.g., lifting, bending, reaching) and MSDs. Moreover, not one, but two National Academy of Science reports also found a consistent pattern of scientific evidence from epidemiological and biomechanical studies confirming the relationship between workplace physical exposures and MSDs.[26] A final ergonomics standard was published in November 2000, but in March 2001, it was repealed by the House and Senate under the Congressional Review Act.[27]

This Senate committee has asked, "is OSHA working for working people?" My response is that, when you look at the situation with working men and women and ergonomic hazards, the answer is NO. Work-related musculoskeletal disorders are by far the leading cause of workplace injuries, yet there is no OSHA standard to protect workers from the hazard of poorly-designed work settings. Ergonomic injuries cost employers $15-20 billion annually in workers' compensation costs alone,[28] yet this number one workplace safety and health problem is not even mentioned on OSHA's most recent regulatory agenda.[29]

This Administration's approach to reducing workers' risk of ergonomic injuries relies on the employers taking measures voluntarily to protect their employees. OSHA's strategy relies primarily on issuing guidance documents, one industry at time. During this Administration's six year tenure, OSHA has issued just three of these documents (i.e., for nursing homes, poultry processing plants and retail grocery stores). A workplace hazard of this breadth and magnitude cannot be tackled one guidance document at a time.

On a related matter, at the end of the Clinton Administration, OSHA published a change in recordkeeping requirements that would have required employers to check a special box on their injury/illness log if an injury was an MSD. This information would enable OSHA to better understand the magnitude and distribution of work-related MSDs. OSHA then delayed the effective date, eventually repealing the provision.

In short, there are many hazards common in the American workplace for which OSHA either has no standard or one that is based on old and out-dated science. Further, the results of new scientific studies appear to have little impact on the OSHA regulatory process.

Procedural Botox: Congress and the White House have constructed a system where it is extremely difficult and expensive to issue new standards

Blame for the failure of OSHA to issue appropriate health standards can be shared among many parties. The primary cause of this failure does not rest with the current leadership of the agency, although they have demonstrated no commitment to issuing badly needed standards to protect workers from deadly hazards. The primary blame rests in a system that makes OSHA standard setting inordinately difficult and resource-intensive. There are numerous barriers to standard setting, including congressionally imposed special reviews by "small" business employers, OMB imposed regulatory reviews, and increasing demands for detailed economic analyses. My colleague Frank Mirer, a Professor at the Hunter College School of Health Sciences, has called this "procedural Botox." I have appended to my testimony a table entitled **"**Limitations on OSHA Standard Setting Beyond OSHA Law," prepared by Professor Mirer for his testimony earlier this week at a hearing held by the House Education and Labor Committee's Subcommittee on Workforce Protections. This table lists the numerous impediments to OSHA standard setting.

The well-meaning legislators who wrote the idealistic law that created OSHA envisioned an agency that would use the best available science to set standards that would protect American workers. As scientists learned more about toxic chemicals and other hazards, NIOSH would perform the relevant research and OSHA would issue the appropriate standard. That was the vision, but the past few decades have served as a sobering lesson about how good intentions can go astray. When Congress enacted the OSHA law in 1970, it believed the new agency would adopt private industry consensus standards as a stopgap measure *only*, then issue new standards based on current research. But in the late 1980s, when the agency tried to update several hundred workplace chemical exposure limits *en masse*, it primarily used newer industry voluntary standards which were not necessarily as protective as a strong public health agency might require. Even so, dozens of industry groups took OSHA to federal court demanding that OSHA address each change in a separate rulemaking. The court agreed, ruling in 1992 that health standards had to be issued one chemical at a time; OSHA announced that the outdated standards would remain unchanged.

Chemical by chemical standard setting would be a painfully time- and resource-intensive process for any agency, much less this beleaguered one. OSHA doesn't have the staff to work on more than one or two standards at a time, and, with no judicial or congressional oversight to speed the process, each standard takes years to complete. Unless things change radically, only a handful of the thousands of chemicals in daily use in American workplaces will ever be the subject of an OSHA standard.

I strongly believe that to better protect American workers from workplace hazards, OSHA needs to move away from hazard-specific standard setting. There are some steps toward this goal that OSHA could implement immediately. Others will require legislation.

OSHA has abandoned the general duty clause. It is time for the agency to start using it again.

When Congress passed the OSH Act, the bill's authors recognized that the agency could not have a standard for every conceivable workplace hazard. OSHA doesn't need a new standard if a hazard is serious and there are recognized measure to mitigate the hazard. Congress gave OSHA the "general duty clause," but the agency now is hesitant to use it, even for the most obvious and egregious hazards. In September 2004, for instance, a zoo employee was severely mauled by a black bear who escaped after its den was left unlocked. OSHA officials concluded that no citation could be issued, since OSHA has never issued a regulation saying that bears should be prevented from escaping their dens.[30] Does OSHA need a standard saying zoo cages must be locked? No, it needs to use the general duty clause when its inspectors document hazards.

OSHA's first priority should be to issue a Comprehensive Workplace Safety and Health Program Standard.

In all of its voluntary programs, like the Voluntary Protection Program (VPP) and its "alliances," OSHA emphasizes the importance of employers providing a safe workplace, not merely meeting the specific requirements on all of OSHA's rules. This is as it should be, and, more than anything else, this is the message that should go to all employers. The best way to do

this would be to issue a Comprehensive Workplace Safety and Health Program Standard, in which every employer is required to develop and follow a hazard reduction plan, involving hazard characterization and abatement.

I had first hand experience with this sort of requirement. In DOE's nuclear safety enforcement system (under the Price-Anderson Act), the operator of every nuclear weapons facility must develop its own rigorous safety plan. When I sent inspectors out following an inadvertent release of radiation, or a report of an accident or near accident, the first thing the inspector did was to determine if managers were meeting the facility's own plan. If not, they were in violation. End of discussion.

We need the equivalent system in which *every* employer develops its own public health/hazard abatement plan, signed off by the corporation's CEO (call it "Sarbanes-Oxley for Safety and Health"). Each firm would be required to survey its facilities for the presence of hazards, both real and potential. Based on this survey, the managers would develop a plan that addresses all hazards ─from digging trenches safely to limiting chemical spills, from having well-marked unlocked exits to educating all workers about the risks of their jobs. Does this sound utopian? Thousands of responsible employers would be in full compliance immediately, since this is how they already operate.

Under the new system, each employer's plan would be public, available to workers and community residents to examine and critique. It would be certified by the government, state or federal, depending on the details—or perhaps certification could fall to private sector organizations (like insurance carriers) that would bear some of the risk if a plan were found to be inadequate.[31]

As always, the devil would be in the details, and I'm under no illusions about the political difficulty of putting such a sensible, reasonable plan into place. But just think how a plan would clarify matters for all concerned. Public health protection would boil down to the enforcement of two questions:

- Does the employer have a plan that is adequate to protect workers, its neighbors and the environment; and
- Is the employer meeting the requirements of its own plan?

Such clarity would benefit regulators and responsible employers and would give irresponsible companies a clear direction for improvement.

Congress should mandate OSHA issue certain health standards

The chromium standard shows that external deadlines are effective in overcoming barriers to regulatory action and agency inertia. Without reopening the OSH Act, Congress could step in using the appropriations process, for example, to require OSHA to issue the standards on beryllium and silica, which OSHA staff have been working on for years, along with any other standards that are partially completed.

Congress should authorize OSHA to adopt the current Threshold Limit Values List

In passing the OSH Act, Congress required the agency to adopt by rulemaking (within 2 years), certain national consensus standards, such as the Threshold Limit Values® of the ACGIH, unless the Secretary determines that they would not result in improved safety. OSHA has not kept up with recommendations of voluntary organizations. It is time for Congress to require OSHA to again adopt the recommendations of voluntary organizations like ACGIH, with the same conditions set forth in the original OSH Act.[32]

In conclusion, my answer to the question posed in this hearing, "Is OSHA Working for Working People?" is no. OSHA has the potential to contribute to a real reduction in workplace injuries and illnesses, preventing countless injuries and saving hundreds of not thousands of lives each year. Sadly, it is not fulfilling this promise. I hope the members of this committee will assist in moving OSHA in the right direction, toward being an agency fully committed to protecting the health and safety of America's workers.

Limitations on OSHA Standard Setting Beyond OSHA Law		
1970	OSHA law passes	
1974	EO 11821 (replaced by EO 12044)	Inflation Impact Statements
1978	EO 12044 (replaced by EO 12291)	Regulatory analysis required
1980	Regulatory Flexibility Act	Regulatory Flexibility Analysis
1980	Paperwork Reduction Act	OMB approval of information collection requirements in standards, 3-year renewal of provisions
1980	Supreme Court Benzene Decision	Determine significant risk
1980	DC Court of Appeals Lead Decision	Industry-by-industry feasibility determination
1981	EO 12291 (modified by EO 12866)	Expanded RIA requirements
1985	EO 12498 (modified by EO 12866)	Regulatory Agenda approval by OMB
1988	Federal Advisory Committee Act	Advisory committees limited in number, approved by GSA
1992	11th Circuit PEL Update Decision	Must give full rationale for exposure limit, demonstrate actual exposure, even if no party objects
1993	EO 12866 (modified by EO 13252)	Modest changes in previous EO's
1996	Small Business Regulatory Enforcement Fairness Act	SBA panels review and comment on pre-proposal standards
1996	Congressional Review Act	Expedited process for congressional disapproval of standards
2001	Information Quality Act	Process to appeal information documents from agencies
2002	OMB Information Quality Act Bulletin	Amplifies process for complaints about information used in regulation
2002	EO 13252	Reorganize authority of EO 12866
2005	OMB Peer Review Bulletin	Detailed rules for external review of agency decisions
2007	EO 13422	Extends OMB authority to guidance documents, adds "market failure" to preconditions and adds to political control of rulemaking decisions

Source: Mirer FE. "The Breakdown of OSHA Standard Setting.," Testimony to Subcommittee on Workforce Protections, Committee on Education and Labor, U.S. House Of Representatives, April 24, 2007

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