The Regulatory Studies Program (RSP) of the Mercatus Center at George Mason University is dedicated to advancing knowledge of regulations and their impacts on society. As part of its mission, RSP produces careful and independent analyses of agency rulemaking proposals from the perspective of the public interest. Thus, the program’s comments on the Occupational Safety and Health Administration’s draft ergonomics standard do not represent the views of any particular affected party or interest group, but are designed to protect the interests of American citizens.

OSHA has posted a working draft of the proposed ergonomics program standard on its web site to elicit public debate in advance of a notice of proposed rulemaking expected in September 1999. While RSP typically offers comments on regulations during the public comment period, it appreciates the opportunity to provide comments at this earlier stage. Due to the widespread distribution of the draft rule and its posting on a tax-payer funded web site, RSP believes it is appropriate to discuss it, despite the “do not cite or quote” label on the document.

I. OSHA’s Draft Rule

OSHA’s draft proposal is an effort to “reduce the large number and severity of workplace musculo-skeletal disorders” (WMSDs). It defines musculo-skeletal disorders (MSDs) broadly as “injuries and disorders of the muscles, nerves, tendons, ligaments, joints, cartilage and spinal disks,” and offers examples ranging from carpal tunnel syndrome, to “muscle strains,” to “low back pain.”

Under the draft rule, employers would be required to establish for all “problem jobs” an “ergonomics program to identify and control hazards that are reasonably likely to be causing or contributing to the WMSDs.” “Problem jobs” include manufacturing or manual handling jobs where a known hazard exists, any other jobs where a WMSD is reported, or any jobs similar to a job in which a WMSD has been reported.

The draft defines an ergonomics program as “a systematic process for anticipating, identifying, analyzing and controlling WMSD hazards.” It would require such programs to contain the following basic elements:

1. Management leadership and employee participation;
2. Hazard identification and information;

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1 Prepared by Susan E. Dudley, Senior Research Fellow, and Diana Rowen, Consulting Analyst, Regulatory Studies Program, Mercatus Center, George Mason University.

2 Regulatory Plan (63 FR 61307) and www.OSHA.gov.
3. Job hazard analysis and control;
4. Training;
5. Medical management; and
6. Program evaluation.

II. Federal Role in Ergonomics Programs

OSHA relies on three premises to justify its efforts to develop federal ergonomics standards:

- WMSDs account for one third of all lost-workday injuries and illnesses, cost more than $15-$20 billion in workers' compensation and impose total costs that “add up to as much as $60 billion.”
- WMSDs are preventable.
- Ergonomics programs are the most effective way to reduce risk, decrease exposure and protect workers against WMSDs.3

As discussed more fully below, each of these premises is true, though to different degrees. The first premise, that WMSDs impose real costs on employers and employees, is most certainly true, though the precise nature and extent of WMSDs is not known. While the second premise, that all WMSDs are preventable, may be overstated, it is true that interventions may serve to reduce the frequency and severity of some, if not most, injuries. OSHA’s third premise, that ergonomics programs are the most effective way to reduce WMSDs, may also be supported by anecdotal evidence.

The validity of these statements, however, does not justify a federal standard prescribing specific ergonomics programs in all workplaces. It is widely recognized that, in the absence of a significant market failure, regulatory solutions to social problems are likely to be less effective than markets solutions.4 In the case of WMSDs, OSHA has offered no evidence that employers and employees do not have adequate incentives to provide the optimal level of workplace protection against WMSD hazards. On the contrary, OSHA provides evidence that (1) the costs to employers of WMSDs should offer ample incentives to reduce their occurrence, (2) employers are, in fact, developing programs and other initiatives to reduce WMSDs,5 and (3) WMSDs are declining.6

4 The Administration’s Best Practices guidance confirms this principle: “In order to establish the need for the proposed action, the analysis should discuss whether the problem constitutes a significant market failure.”
5 www.OSHA.gov
OSHA also defends a federal role with the observation that state action has been limited, and varied. However, states are generally much closer to the players on both sides of any regulatory issue, so the fact that they have largely confined their ergonomics policies to cooperative agreements and guidelines is telling. With cooperative agreements, state officials identify employers who have reported high numbers of illnesses and injuries, and ask them to review their MSD records and implement an ergonomic program of their own design, should it appear justified. Guidelines follow a similar approach. Often written as a “how-to” manual, guidelines describe a standard program but give employers full discretion. Only California has issued a regulation (1997) and it is less than two pages. Yet, even these state actions may be unwarranted. As the graph below illustrates, WMSDs began dropping in 1994, before many of the state ergonomics programs came into effect.

In a recent study, economists Conway and Svenson examined possible causes for the decline in overall occupational injury and illness rates between 1992 and 1996. They found that reforms in state workers’ compensation programs and industry initiatives (driven by accident costs, and better information on workplace remedies) were primarily responsible for the decline. Their analysis indicates that OSHA’s compliance assistance

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7 OSHA Administrator, Charles Jeffress raises concerns that “the nation not end up with a patchwork of ergonomic requirements” in an April 29, 1999 speech to the National Coalition on Ergonomics.
8 North Carolina is currently in the process of promulgating an ergonomic rule.
9 BLS: “Occupational illness cases, private industry, 1980-95,” “Industries with the highest number of nonfatal illness cases of disorders associated with repeated trauma, private industry, 1996,” and “Rates and number of cases of disorders associated with repeated trauma by industry, 1997.”
and selective inspection approach, not its regulatory mandates, may also have contributed positively to the reduction in accident rates, but that influence could not be measured separately due to the concurrent activity in workers compensation reform.

While OSHA has offered solid arguments for why WMSDs are a real problem in the U.S. workforce, it offers no rationale for a federal solution to that problem. In a recent speech to employers, OSHA Administrator Charles Jeffress underscored the fact that employers are responding to the significant costs associated with WMSDs by initiating ergonomics programs tailored to their workplaces. He observed that:

Many of the corporations that you or your association represent are taking steps to prevent work-related musculoskeletal disorders. … The actions indicate your employers believe that spending money to improve ergonomics can benefit both the workforce and the company’s bottom line.11

Mr. Jeffress interprets employers’ opposition to an OSHA rule as contradictory to their individual efforts to establish ergonomics programs and reduce worker hazards, rather than as evidence of private solutions to the problem.12 In fact, it appears that lack of knowledge about the causes of and solutions to WMSDs, rather than a lack of motivation, has hindered employer efforts to reduce WMSDs. Yet, lack of knowledge is not addressed at all by OSHA’s regulatory approach. Instead, OSHA’s draft rule mandates certain procedural activities without contributing to the body of knowledge about the causes and solutions for WMSDs.

III. Lack of Knowledge, Not Lack of Motivation, is the Problem.

OSHA’s three basic premises for this rulemaking are supported to different degrees by factual data. The varying, and sometimes conflicting, information on the causes of, and solutions to, WMSDs highlights the fact that incomplete knowledge, not insufficient employer incentives, has frustrated efforts to reduce WMSDs. This section examines the basis for OSHA’s three premises, that: (A) WMSDs are a significant and costly workplace problem, (B) WMSDs are preventable, and (C) ergonomics programs are the solution.

A. Are WMSDs a significant and costly workplace problem?

A prerequisite to good public policy is a clear understanding of the nature and extent of the problem to be addressed. In contrast to OSHA’s traditional approach of identifying and addressing a workplace hazard, this draft rule attempts to identify and address certain

11 April 29, 1999 speech by Charles N. Jeffress to National Coalition on Ergonomics.
12 In the same speech, Mr. Jeffress said: “Your campaign against an OSHA standard denounces ergonomics programs as costly and of questionable value in preventing injuries. Yet many of your corporations have established programs that qualify for grandfathering under the OSHA draft proposal! There's a serious disconnect here. If ergonomics programs are a drag on productivity and a drain on profits, why are you establishing them? Because the opposite is true: good ergonomics is good economics.” Ibid.
symptoms observed in the workplace. The draft OSHA rule defines MSDs as “... injuries and disorders of the muscles, nerves, tendons, ligaments, joints, cartilage and spinal disks,” yet data on the extent and cost of the injuries, illnesses or symptoms that match definition are not available. Neither the Department of Labor (DOL) nor any other national organization has been tracking illnesses and injuries according to this definition.

The primary source for worker illness and injury data is DOL’s Bureau of Labor Statistics (BLS). The BLS asks approximately 250,000 private-sector employers each year to complete its Survey of Occupational Injuries and Illnesses using the OSHA Log 200 form. Although the OSHA Log 200 was updated in 1992 to look at illnesses and injuries by event or exposure as well as by type, it does not have a specific WMSD category. The closest proxy to WMSDs in the type category is the “repeated trauma illnesses” and the closest proxies in the event or exposure categories are the “illnesses due to repeated motion, vibration, or pressure,” and “illnesses due to overexertion.” Only this last group includes back injuries. Thus, depending on which way one looks at the data, the number of WMSDs experienced in the workplace in 1994 ranged from 332,000 (repeated trauma illnesses) to 705,800 (repeat motion and overexertion illness and injuries).

OSHA relies on worker compensation claims to estimate that WMSDs are responsible for one-third of all lost-workday injuries and illnesses, and between $15 and $20 billion in costs each year. Yet, since WMSDs are not classified as such in these claims, how can OSHA know the true extent of their costs? Furthermore, non-work related activities may contribute to WMSDs and contribute to symptoms that affect workplace productivity. Yet, few studies have addressed the occurrence of MSDs in the general population, making it difficult to compare work-related incidence rates with non-work-related incidence rates.

This lack of information is significant, because without a clear understanding of the nature and extent of MSDs, and the reason they persist in the workplace, policymakers are likely to target efforts ineffectively. The available data suggest that WMSDs are a significant problem affecting the workplace, but that they are not well defined, and have not been accurately tracked or recorded. The BLS data also suggest that WMSDs have


14 Employers are required to record all work-related illness and injury data on the OSHA Log 200 form.

15 The redesigned also added a description of the nature of the injury or illness (such as sprain), the part of the body affected (such as back), and the source of the injury or illness (such a heavy box.).

16 Musculoskeletal Disorders (MSDs) and Workplace Factors, National Institute for Occupational Safety and Health, Cincinnati, Ohio, July 1997, page 1-2. Note that these figures reflect different ways of classifying the same injuries and are not additive.

been declining in recent years, reflecting the fact that employers, who bear large costs associated with WMSD-related injuries, are already taking steps to improve employee health and reduce costs.

**B. Are WMSDs Preventable?**

OSHA asserts that WMSDs are preventable. However, in order to prevent an injury, an employer must be able to (1) recognize it, (2) identify its cause, and (3) develop a solution to prevent future occurrence. As the above discussion revealed, although available data suggest that WMSDs can have significant effects on worker productivity and employer costs, lack of accurate data on the prevalence and nature of WMSDs makes their identification difficult. Identifying the cause of WMSDs is more difficult. Ergonomics specialists are finding that WMSDs are not simply caused by poor biomechanic functioning, but rather involve a combination of physical, organizational, social and psychological factors. Actually finding a solution that prevents WMSDs then is even more complicated and uncertain.

At the request of the National Institutes of Health, the National Academy of Sciences (NAS) sponsored a workshop in August 1998 to examine the scientific literature relevant to WMSDs. The workshop report observes not only that “non-work related” activities can contribute to WMSDs, but that complex interactions between various factors influence the development of MSDs. For example:

- pain may cause a worker to use his muscle differently, thereby changing the loading pattern,
- time pressure may cause an individual to handle a particular load carelessly, or
- psychological stress might influence what a worker reports, or even the worker’s physical reaction.

The NAS committee found that:

Specific interventions can reduce the reported rate of musculoskeletal disorders for workers who perform high risk tasks, [but that] no known single intervention is universally effective. Successful interventions require attention to individual, organization, and job characteristics, tailoring the corrective action to those characteristics.

They also concluded that more research is needed to develop recommendations for the most efficient interventions. Key areas for research include:

- understanding mechanisms that cause MSDs,

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18 “The NAS study,” op. cit.
19 The NAS study, op. cit. page 7.
20 The NAS study, op. cit. page 27.
• understanding the “influence of multiple factors (mechanical, work, social, etc.) on symptoms, injury, reporting, and disability,”

• understanding the relationship between incremental load and incremental response,

• improving measures of risk factors, outcome variables, etc. and

• understanding the clinical course of MSDs.21

OSHA has defined WMSDs as a varied set of symptoms, rather than a well-identified workplace hazard. Regulating on the basis of symptoms rather than hazards requires knowledge about a wide range of potential remedies, as different injuries or symptoms have been examined to varying degrees. Three of the most studied WMSDs are carpal tunnel syndrome, “white finger,” and back injuries. Yet, even for these well-studied WMSDs, only for white finger does there seem to be consensus about the most effective form of intervention.

1. Carpal tunnel syndrome, often arising from the use of computer keyboards and mice, is one of the most studied forms of WMSDs. It affects approximately 30,000 workers annually who average 30 days away from work.22 Yet, while the experts agree that carpal tunnel syndrome is caused by repetitive forceful motion of the hand and wrist, they do not agree on whether or to what extent extreme posture is a contributing factor.23 Nor do they agree on whether alternative keyboard designs reduce WMSDs. Three studies found no difference in reported pain between alternative and standard keyboards, while one showed some benefit to the split keyboard.24

2. “White finger” is caused by vibrating forces on the palm and fingers, largely from the use of power tools. Not as widespread as carpal tunnel syndrome, this WMSD affects thousands of workers annually. While there have been fewer studies than in the case of carpal tunnel syndrome, there appears to be more consensus that tool redesign, including reduction in tool weight and improved grip design, will provide benefits.25

3. Back injuries make up one-quarter of all work-related injuries, and while not all qualify as WMSDs, back pain is among the most well-studied WMSDs. The debate has been long and complex, and only recently have experts agreed on one aspect of the debate, i.e., that back belts do not help.

Thus, the current state of knowledge, even for these well-studied WMSDs, may not be adequate to “prevent” their occurrence, and OSHA’s definition of MSDs includes many

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21 The NAS study, op. cit. page 27-28.
23 The NIOSH study, op. cit. chapter 5 summary.
24 The NAS study, op. cit. page 208.
25 The NAS study, op. cit. page 208.
other symptoms that have not been studied nearly as thoroughly. Clearly, while it may be true that interventions are available for many WMSDs, OSHA’s blanket assertion that “MSDs are preventable” is overstated.

C. Are Ergonomics Programs the Answer?

As discussed above, WMSDs are a costly problem in some workplaces, and certain work environments and working conditions appear to pose higher risks of WMSDs than others. While more research is needed to fully understand the cause and most effective interventions, viable interventions exist to reduce the risks of many WMSDs. The third premise on which OSHA bases its draft rule is that ergonomics programs are the most effective way to reduce risks. It bases this largely on evidence that employers who have implemented ergonomics programs have enjoyed reductions in WMSDs and workers’ compensation costs.

Probably the best evidence that employer ergonomics programs have worked to reduce workers compensation costs is a 1997 GAO report, which examined the experience of five companies that undertook ergonomics programs. The primary objective of these private programs was to reduce worker compensation costs, and they did achieve cost reductions ranging from 35 percent to 91 percent. OSHA highlights other case studies of companies that have prevented injuries and saved money by establishing ergonomics programs.

The private sector experience highlights important points. First, employers for whom WMSDs pose a problem have responded with effective programs tailored to their workplace. The ergonomics programs they put in place were driven by market forces, rather than federal mandates, and the fact that these programs were successful for companies who responded to market incentives does not necessarily imply that such programs would be successful for all employers.

Second, inadequate information on the nature and extent of WMSDs hindered the companies that participated in GAO’s study. Ultimately, each found it necessary to set up systems – either on their own, through their worker compensation insurer, or third party administrator – to track WMSD-related injuries and associated costs. GAO notes that “… other companies, even if they have high workers’ compensation costs, may not have access to the information needed to determine whether they have a problem with WMSDs and, if so, how to address the problem.”

26 The NAS study, op. cit. page 27.
29 Figure 1: Percentage Reduction in Workers’ Compensation Costs for MSDs at the Case Study Facilities, The GAO Report, page 27.
30 www.OSHA.gov, “Real Solutions.”
31 Worker Protection: Private Sector Ergonomic Programs Yield Positive Results, op. cit., page 36 of Internet version.
identification, causation, and intervention is likely to be more effective at encouraging reductions in WMSDs than mandated ergonomic programs.

In sum, the available evidence does not provide a sound analytical basis for OSHA’s claim that its ergonomics program is the most effective way to reduce WMSDs. The steady decline in WMSDs since 1994 correlates with increasingly available information on the causes of and remedies for different symptoms, not with any mandated ergonomics programs.

IV. OSHA’s Ergonomics Program Would Not Address the Problem, and Would Constrain Private Initiatives.

OSHA’s rule would require employers to “demonstrate leadership;” respond to employee complaints; provide resources, training, and medical support; and keep records, but it would not address the fundamental problem of insufficient knowledge. Furthermore, its one-size-fits-all, six-element program could impede private efforts to respond cost-effectively to specific injuries under varied conditions.

OSHA recognizes that there is not a single solution to all ergonomics problems. Department of Labor Assistant Secretary, Charles Jeffress observed in a speech:

No, ergonomics is not an exact science. That's because we're dealing with individuals, not robots.32

However, while OSHA touts its draft rule as a flexible, process standard, it contains a mandated list of ergonomics program elements and requires employers to implement all feasible controls in the face of a single reported WMSD. Existing programs would be “grandfathered” as long as they contain the ergonomics program elements defined by OSHA and are “eliminating or controlling WMSD hazards to the extent feasible.”

A. Hazard Identification and Information

OSHA’s definition of MSDs is broad – encompassing not only repetitive motion injuries, but also such symptoms as back pain and muscle strain. All workplaces with manufacturing or manual handling operations would be required to establish ergonomics programs. Employers would be required to identify any WMSD hazards that “... are reasonably likely to be causing or contributing to WMSDs,” and inform employees about these hazards and the corresponding symptoms. For non-manufacturing or manual handling workplaces, a single reported WMSD hazard or injury would trigger the requirement that a company establish an ergonomics program. Thus, despite the fact that WMSDs are broadly and vaguely defined, and even specialists have difficulty identifying the cause of many WMSDs, due to the confounding influence of various work and non-work related factors, the draft rule would require the establishment of a complex and expensive program based on a single report of a possible hazard or injury.

32 April 29, 1999 speech by Charles N. Jeffress to National Coalition on Ergonomics.
Furthermore, this hazard identification and information component of the draft rule could have perverse results. The Small Business Advocacy Review Panel raised concerns that employers might be discouraged from investigating potential hazards, since “known hazards” would trigger an onerous ergonomics program.33 In addition, the fact that a single report would trigger a program is likely to elicit false reports from employees, making it more difficult to collect reliable objective data on ergonomic injuries and their causes.34

B. Job Hazard Analysis and Control

To meet this requirement, employers must observe work activities to determine the cause of WMSDs and then implement the appropriate control measures. The draft rule sets forth a hierarchy of controls, with engineering controls preferred, but with work practice and administrative controls also accepted. Personal protective equipment, such as gloves and knee pads, provided at no cost to the employee, would only be allowed as an interim control. Administrative controls include employee rotation, slower work pace, or increased rest breaks. This hierarchy is intended to impose costs on employers rather than employees, but it reduces employee incentives to take responsibility for their own safety and creates further incentives for spurious claims of injury. It also may discourage innovation and application of the most effective measures for alleviating WMSDs. For example, the prohibition on the use of personal protective equipment as a permanent measure could preclude the use of wrist braces for alleviating the symptoms of carpal tunnel syndrome and discourage innovation in such measures. Given the wide variations in WMSDs, and the dearth of information on the most effective solutions to many of them, OSHA’s hierarchy can only serve to constrain innovation in a science still in its infancy.

C. Medical Management

Employers would have to provide “prompt and effective medical management [including work restrictions recommended by health care professionals] whenever an employee has a WMSD.” Employers would also be responsible for “provid[ing] information … to help ensure medical management is effective.” This would require an understanding of WMSD causality by both employer and medical specialist that is unrealistic in many cases. According to the National Academy of Science Workshop participants: “Labeling the specific cause ... is an issue of construct validity, a standard that is unlikely to be achieved in actual workplace environments.”35 How would an employer (or even a medical professional) determine whether back pain or muscle strains were caused by work-related activities or weekend yardwork?

35 The NAS study, op. cit. page 20.
Work restrictions can include complete removal from the workplace for up to six months, during which period employers must maintain the employee’s full earnings. This requirement is onerous and ripe for abuse in itself, but its redundancy or conflict with workers compensation claims also concerned the Small Business Advocacy Review Panel. First, for certain minor WMSDs, employers may need to compensate an employee for an injury or illness that would not be covered under state worker’s compensation laws. Second, for certain more serious WMSDs, the employee might end up receiving wages from the employer, in compliance with ergonomic regulation, in addition to worker compensation benefits.36

D. Program Evaluation

The draft rule requires employers to evaluate their ergonomics program according to both “activity and outcome measures.” Yet in the case of WMSDs, neither activity nor outcome measures are likely to reflect program effectiveness.

As the GAO study reported:

Facility officials said they faced a number of challenges in measuring the overall performance of their programs and tying outcomes to the efforts they were making in implementing their programs. Primary among these challenges was determining what injuries should be included as WMSDs, and effectively tracking the changes in the number and severity of those injuries in light of what officials referred to as “confounding” factors that complicated their ability to interpret outcomes or changes that accompanied their program efforts.37

Some employers actually found an increase in reportable WMSDs after program implementation, which they attributed to an increased awareness of WMSD hazards. As noted above, OSHA’s requirements for work restrictions and medical management would provide incentives for employees to report WMSDs.

E. Compliance

While the draft rule states that “the report of a WMSD by itself is not a violation of this standard,” exactly what will constitute compliance with this process standard is uncertain. Just as employers will find it difficult to evaluate their own programs, as discussed above, they will likely have difficulty knowing whether they are in compliance with this regulation. For example, “if WMSDs are still occurring in a problem job even after [an employer has] implemented feasible permanent controls” the draft requires them to “look for solutions for the problem job and implement feasible ones as soon as possible.” Some members of the Small Business Advocacy Review panel expressed concerns about the vagueness of the term “feasible” and doubted their ability to determine whether they had taken sufficient steps to be in compliance. In regulatory parlance, the term “feasible”

37 The GAO report, op. cit. page 30.
often means technologically possible, rather than cost-effective or an efficient use of resources. What does OSHA mean by “feasible” in the context of this regulation?

Given the requirement to implement workplace restrictions and slow down the work pace in response to reported WMSDs, without regard to the impacts of such measures on productivity or profitability, achieving compliance with the draft rule could shackle a company. Dissatisfied employees would have a new avenue for disrupting a work place, and since a claim of a WMSDs would be difficult to dispute, employers would have little recourse against an unproductive worker.

V. **OSHA’s Draft Rule Would Impose Costs Without Commensurate Benefits.**

While OSHA has apparently prepared some initial cost and benefit estimates of the draft for its Small Business Advocacy Review Panel, these data are not yet public. OSHA officials have suggested that ergonomics regulation will affect 2.5 million businesses and cost $4 billion, yet the Small Business Review Panel commented that OSHA’s costs were “significantly underestimated.”

Some costs of ergonomics programs will accrue to employers whether they are mandated by OSHA or adopted voluntarily. If allowed to adopt programs voluntarily, however, employers would be able to tailor the program to their particular work environment and ergonomic needs, and make ergonomics changes to the extent the benefits of those changes (in terms of workers compensation costs, employee morale, and employee productivity) are commensurate with the costs. As the NAS panel observed:

> Rational decision making … depends on the relative importance attached to the different consequences. Different people and institutions will have different values and different opportunities for action, at the governmental, employer, and individual levels.40

However, a striking feature of OSHA’s process rule is that it would not allow employers and employees to consider the “relative importance attached to different consequences” – cost-effectiveness is not a criterion in the establishment of programs or in the selection of control measures. To address a reported WMSD, employers would have to implement all feasible permanent control measures, including work restrictions, which OSHA defines as:

> any limitation placed on the manner in which an employee with a WMSD performs a job during the recovery period. Work restrictions include modifications and restrictions to the employee's current job, such as limiting or reducing the intensity or duration of exposure; and reassignment to temporary

38 Gregory Watchman, Deputy Assistant Secretary of OSHA, National Ergonomics Conference, Detroit, November, 1998.
39 SBA Report, op. cit. Section 4, April 1999.
40 NAS Report, op. cit. p. 28.
alternative duty jobs. Work restrictions also include complete removal from the workplace [for up to six months].

To identify whether WMSDs hazards are present in the workplace, OSHA estimates that some companies will rely on ergonomics consultants at an average cost of $1,000.\(^{41}\) One safety and health consultant on the Small Business Review Panel, however, estimated that ergonomic consultant services would range from $2,000 for a simple walk-through to $25,000 for a hazard control analysis.\(^{42}\)

These costs will not be borne entirely by employers. Employees and consumers of the goods and services companies offer will bear at least some of these costs. There may be less readily quantifiable costs, as well. Several members of the Small Business Advocacy Review Panel raised concerns that:

the rule would lead to discrimination against workers perceived to be more likely to have or report a WMSD. Discrimination against older workers, persons previously on welfare, and persons who had had WMSDs in the past were mentioned as possible types of discrimination the draft proposed standard might encourage.\(^{43}\)

Furthermore, the fact that ergonomics programs are mandated does not assure greater benefits than if the private sector were allowed to implement them in response to private incentives. OSHA has not identified social costs that are not also private costs (in economic jargon, an externality) that would suggest that private employers do not have adequate incentives to maximize the net benefits of ergonomics improvements.

VI. OSHA Should Address Key Questions Before Proceeding.

The key tests of whether a government action is likely to make society better off are (1) whether it is designed to correct a significant market failure and (2) whether its projected benefits are likely to exceed its projected costs. The Regulatory Studies Program has developed a checklist of elements that are necessary to determine whether these two tests are met. As it proceeds in the development of federal policy on ergonomics, OSHA should address the following questions, which are based on the RSP Checklist. Refer to Appendix I of this comment for RSP’s Checklist evaluation of OSHA’s working draft.

A. What market failure is OSHA attempting to remedy?\(^{44}\)

Why would private markets not be expected to respond appropriately to ergonomic hazards in the workplace? What significant externalities prevent profit-maximizing

\(^{41}\) SBA report, *op. cit.* cost and benefits section.
\(^{42}\) SBA report, *op. cit.* cost and benefits section.
\(^{43}\) SBA report, *op. cit.* cost and benefits section.
\(^{44}\) Regulatory actions that do not explicitly recognize the market failure or systemic problem underlying the need for action are bound to be less effective than those that identify and correct the fundamental problem.
employers and utility-maximizing employees from achieving a socially optimal level of ergonomics protection?

B. Why is a federal role preferable to private or state actions?45

What role do State workers’ compensation programs play in providing employers’ incentives to mitigate ergonomic hazards? How will federal involvement affect those incentives? Since information on the causes and most effective remedies for WMSDs is limited and sometimes conflicting, can State and private actions better target specific circumstances? What net benefits can federal actions offer over private and more local government initiatives?

C. What alternative approaches could meet OSHA’s goals?

In light of the above questions, what alternative approaches are available to meet OSHA’s objective of reducing the number and severity of WMSDs? Which alternatives most effectively target the fundamental market cause of the problem? For example, if employer lack of knowledge on the cause of WMSDs and how to address them inhibits remedies, what alternatives might facilitate the sharing of successful experiences and dissemination of new research? Would non-binding guidance targeted to sectors where certain WMSDs are prevalent achieve the desired goals? How would “feasible” be defined? Would cost-effectiveness criteria be more appropriate?

D. What are the costs and benefits of the proposal and alternatives?

What are the social costs and benefits of the proposed approach and viable alternatives? These costs and benefits estimates should be incremental to a baseline in which private markets are allowed to respond to existing incentives, such as workers compensation costs and lost productivity.

E. Does available science and technical information support the proposal?

What information does OSHA have on the prevalence of WMSDs, as defined by the draft proposal? Is the draft definition supported by research that distinguishes WMSDs from non-work-related MSDs? Does available information support OSHA’s hierarchy of control measures for all WMSDs? Are the medical management provisions in the draft justified by available information for all of the symptoms covered by the draft?

45 In the absence of a significant market failure, private solutions that can be tailored to different situations and the diverse types of WMSDs will be more effective and socially beneficial than government action. However, if OSHA can identify a significant market imperfection, it must then ask whether federal action is necessary to remedy it. Except when necessary to guarantee rights of national citizenship or to avoid significant burdens on interstate commerce, effective public policy is most likely to evolve when individual States and communities are free to experiment with a variety of approaches to public issues.
F. What are the distributional effects of the proposal?

Could the rule lead to discrimination against workers perceived to be more likely to have or to report a WMSD, as the Small Business Advocacy Review Panel suggested? Would small businesses bear a greater burden associated with hazard identification and work restrictions?

G. How will the proposal affect employer and employee incentives and individual responsibility?

What incentives do different elements provide employers and employees? Would the program trigger false reports of WMSDs? How will employers distinguish legitimate work-related injuries from non-work-related injuries? How might the standard influence individual responsibility for safety in the workplace? Could the requirement that all known hazards trigger an ergonomics program reduce employer incentives to study and identify hazards in advance of an employee report?

VII. Conclusions and Recommendations

A. Private Incentives Are Driving Employer Efforts to Reduce WMSDs.

Recognizing that WMSDs impose real costs on employers and employees, OSHA has drafted a rule that would mandate the establishment of ergonomics programs to eliminate or control WMSD hazards. However, OSHA’s approach fails to address the fundamental cause of MSDs in the workplace – lack of information on viable, cost-effective solutions.

The costs associated with WMSDs are real, however, they are internalized by the private sector. OSHA has offered no evidence that employers and employees do not have adequate incentives to provide the optimal level of workplace protection against WMSD hazards. On the contrary, OSHA provides evidence that (1) WMSDs impose significant costs on employers, which should offer ample incentives to reduce their occurrence, (2) employers are, in fact, developing programs and other initiatives to reduce WMSDs, and (3) WMSDs are declining.

In public statements on the draft approach, Mr. Jeffress recognizes that private incentives have stimulated successful private efforts:

> Ergonomic programs work. They reduce injuries. They improve employee morale. And they save money for employers.46

Lack of knowledge on the causes of and remedies for WMSDs, not lack of motivation, has hindered employer efforts to reduce WMSDs. Yet, lack of information is not addressed at all by OSHA’s regulatory approach. Instead, OSHA’s draft rule mandates certain procedural activities without contributing to the body of knowledge about the

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46 April 29, 1999 speech by Charles N. Jeffress to National Coalition on Ergonomics.
causes of and solutions to WMSDs. This improper targeting of federal regulatory efforts is aggravated by OSHA’s draft definition of WMSDs. It is so broad that employers are likely to be held liable for injuries or symptoms that are out of their control, such as muscle aches or injuries resulting from non-work-related activities.

**B. OSHA Would Do More to Reduce the Risk of WMSDs by Facilitating Research and Disseminating Knowledge.**

Employers already have strong incentives to reduce WMSDs, so OSHA’s mandates to do so are, at best, redundant. More likely, the procedural requirements and hierarchy of control measures will discourage individual responsibility and hinder innovation into creative solutions. WMSDs have declined in recent years, as high worker’s compensation claims and a growing awareness among employees and employers have fueled ergonomics programs at many companies. This is, in turn, stimulating research at many universities into the causes of WMSDs, as well as leading to an explosion of ergonomic consultants.

Rather than mandating that all workplaces adopt a framework that is not yet demonstrated, OSHA could do more to reduce the risk of WMSDs by facilitating continued research and disseminating the results of that research and experience to all employers. Several states are experimenting with guidelines and standards to address these injuries, and OSHA should track and, perhaps, report on those efforts.

OSHA could also make valuable contributions to the state of knowledge by developing a more reliable database on the nature and extent of WMSDs, including a baseline of the current level of MSDs (work and non-work related) and the amount and types of ergonomic activity currently being undertaken by employers. Such a database could offer valuable insights into the causes of, and effectiveness of solutions to, WMSDs. It would also allow OSHA and employers to target real workplace problems, rather than attempt to address the all-encompassing list of symptoms covered by the definition in the draft rule.
## Appendix I

### RSP Checklist

**OSHA’s Working Draft of a Proposed Ergonomics Program Standard**

<table>
<thead>
<tr>
<th>Element</th>
<th>Agency Approach</th>
<th>RSP Comments</th>
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<tbody>
<tr>
<td>1. Has the agency identified a significant market failure?</td>
<td>OSHA states that “The purpose of this standard is to reduce the large number and severity of WMSDs [workplace musculo-skeletal disorders] employees have been experiencing.” It observes that WMSDs impose total costs of “as much as $60 billion.”</td>
<td>OSHA offers no evidence that employers and employees do not have adequate incentives to provide the optimal level of workplace protection against MSD hazards. In response to high costs (workers compensation costs and lost productivity), employers are taking initiatives to reduce WMSDs.</td>
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<td>2. Has the agency identified an appropriate federal role?</td>
<td>The draft standard defines ergonomics program elements that all affected companies would have to incorporate in their ergonomics programs.</td>
<td>Lack of knowledge, not lack of motivation, has hindered employer efforts to reduce WMSDs. OSHA’s ergonomics program standard (which adds a stick to the carrot that the market already offers) would, at best, be redundant with private initiatives. It could also undermine current state efforts to address WMSDs with other approaches.</td>
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<td>3. Has the agency examined alternative approaches?</td>
<td>OSHA’s web site does not discuss approaches other than the draft ergonomics program standard.</td>
<td>OSHA should consider a wider range of approaches before settling on the procedural requirements and hierarchy of control measures in the draft standard. It should consider approaches that seek to remedy the fundamental problem of lack of knowledge on the causes of, and solutions to, WMSDs.</td>
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<td>4. Does the agency attempt to maximize net benefits?</td>
<td>The draft standard would not allow employers and employees to consider costs or benefits when establishing programs or selecting control measures.</td>
<td>The draft standard could have significant social costs that would be borne not only by employers, but employees and consumers as well. OSHA should consider whether the incremental social benefits of the standard (over and above the benefits that would accrue to private initiatives in the absence of the standard) are worthy of the incremental social costs.</td>
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<td>5. Does the proposal have a strong scientific or technical basis?</td>
<td>Ergonomics programs are supported by anecdotal evidence from companies that adopted them voluntarily in response to private costs. A National Academy of Sciences report concluded that further research is needed on the causes of and interventions for MSDs.</td>
<td>OSHA’s program elements and hierarchy of controls are not supported by scientific literature. Given the wide variations in WMSDs, and the dearth of information on the most effective solutions to many of them, OSHA’s standard could constrain innovation in a science still in its infancy.</td>
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<td>6. Are distributional effects clearly understood?</td>
<td>OSHA does not discuss possible distributional effects.</td>
<td>Larger companies may find the requirements easy to implement, while smaller companies could face heavier burdens associated with the hazard identification and medical management requirements. Employers may have incentives to discriminate against individuals perceived to be more likely to have or to report an MSD.</td>
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<td>7. Are individual choices and property impacts understood?</td>
<td>OSHA does not discuss the impact on property or individual decisions.</td>
<td>The draft confers new rights on employees which could have a significant impact on some establishments. Several aspects of the standard reduce individual responsibility for safety in the workplace, and limit choices with respect to remedies for different symptoms.</td>
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