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ARTICLES

WHEN THE HAZARD IS HUMAN: IRRATIONALITY, INEQUITY, AND UNINTENDED CONSEQUENCES IN FEDERAL REGULATION OF CONTAGION

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I. INTRODUCTION

The resurgence of infectious disease¹ during the past two decades has been one of the most unexpected, influential, and defining challenges of our time.² Notwithstanding the medical profession's mid-century declaration of victory over contagion,³ recent outbreaks of infectious diseases in the United States,⁴ especially Acquired Immune Deficiency Syndrome ("AIDS"),⁵ have

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1. Infectious diseases are caused by pathogens such as bacteria and viruses that are transmitted through air, water, food, animals, or human contact. *See* STEDMAN'S MEDICAL DICTIONARY 868-69 (26th ed. 1995). This article is concerned only with the subset of these diseases that are transmitted through immediate or mediate contact with an infected human being. For a description of these routes of transmission, see Draft Guideline for Infection Control in Health Care Personnel, 1997, 62 Fed. Reg. 47,276, 47,277 (1997). The terms *infectious* and *contagious* will be used interchangeably to refer to such diseases.

2. *See generally* LAURIE GARRETT, *THE COMING PLAGUE: NEWLY EMERGING DISEASES IN A WORLD OUT OF BALANCE* (1994).

3. This optimism was based on the discovery of antibiotics in the 1940s and of a polio vaccine in the 1950s. For an excellent description of this period and its impact on the response of government and the medical establishment to the AIDS epidemic. *See id.*

4. In addition to Acquired Immune Deficiency Syndrome ("AIDS"), there has been a significant increase in the incidence of tuberculosis ("TB") and hepatitis B in the United States during the past 25 years. *See* Centers for Disease Control and Prevention, *The Role of BCG Vaccine in the Prevention and Control of Tuberculosis in the United States*, 45 MORBIDITY & MORTALITY WKLY. REP. 1, 2, No. RR-4 (1996) [hereinafter Centers for Disease Control, *BCG Vaccine*] (general resurgence of incidence of TB in United States from 1985 to 1992, including outbreaks of multidrug-resistant TB ("MDR-TB") in health care facilities and prisons); *see* Centers for Disease Control, *Hepatitis B Virus: A Comprehensive Strategy for Eliminating Transmission in the United States Through Universal Childhood Vaccination*, 40 MORBIDITY & MORTALITY WKLY. REP. 1, 1, No. RR-13 (1991) [hereinafter Centers for Disease Control, *Hepatitis B Virus*] (rates of acute hepatitis B increased 37% in the United States from 1979 to 1989; 1-1.25 million Americans now potentially infectious).

5. The AIDS epidemic was not detected until 1980-81, when young, previously healthy gay

taken hundreds of thousands of lives⁶ and cost billions of dollars.⁷ By many accounts, this increasing incidence of emerging and re-emerging infectious disease will continue into the foreseeable future.⁸

One of the most far-reaching effects of the AIDS epidemic on government has been a radical and largely *ad hoc* expansion of federal involvement in regulating the risk of contagion.⁹ The Centers for Disease Control and Prevention ("CDC"), a subsidiary of the Department of Health and Human Services,¹⁰ have issued numerous guidelines to reduce person-to-

men in Los Angeles and New York City were diagnosed with *Pneumocystis carinii* pneumonia ("PC pneumonia") and Kaposi's sarcoma ("KS"), rare diseases that were previously seen only in patients with severely compromised immune systems. See Centers for Disease Control, *Kaposi's Sarcoma and Pneumocystis Pneumonia Among Homosexual Men—New York City and California*, 30 MORBIDITY & MORTALITY WKLY. REP. 250 (1981); Centers for Disease Control, *Pneumocystis Pneumonia—Los Angeles*, 30 MORBIDITY & MORTALITY WKLY. REP. 249 (1981). For an exhaustive history of the emergence of the AIDS epidemic in the United States and worldwide, see GARRETT, *supra* note 2, at 281-389.

6. Between 1980 and 1992, there was a 22% increase in deaths from infectious diseases other than AIDS. See Robert W. Pinner et al., *Trends in Infectious Diseases Mortality in the United States*, 275 JAMA 189, 191 (1996). As of July 1, 1997, in the U.S., a total of 612,078 AIDS cases and 374,656 AIDS-related deaths had been reported to the Centers for Disease Control and Prevention. See Centers for Disease Control and Prevention, 9 HIV/AIDS SURVEILLANCE REP. 5, 14 (1997).

7. The AIDS epidemic has cost the United States billions of dollars for medical care alone. See Fred J. Hellinger, *Forecasting the Medical Care Costs of the HIV Epidemic: 1991-1994*, 28 INQUIRY 213, 223 (1991) (estimated cost of treating all people with HIV in 1991 is \$5.8 billion and \$10.4 billion in 1994); Dennis P. Andrulis, *The 1987 US Hospital AIDS Survey*, 262 JAMA 784, 784 (1989) (estimated cost of AIDS inpatient care in 1987 was \$486 million, with Medicaid as the primary payer). These figures do not account for the lost wages, lost tax revenues, and other economic losses associated with this disease.

8. "The history of our time will be marked by recurrent eruptions of newly discovered diseases[;] . . . epidemics of diseases migrating to new areas[;] . . . diseases which become important through human technologies[;] . . . and diseases which spring from insects and animals to humans, through manmade disruptions in local habitats." Jonathan M. Mann, *Preface*, in GARRETT, *supra* note 2, at xi; see also Joshua Lederberg, *Infection Emergent*, 275 JAMA 243, 244 (1996) (at minimum, prospect is for rising exposure to familiar infectious agents and increasing treatment failure with antibiotics). To address this problem, the Centers for Disease Control's funding to track and prevent infectious diseases other than AIDS was increased 41% for fiscal year 1997. David Nather, *Senate Takes Up Spending Package After GOP Reaches Deal With White House*, BNA HEALTH CARE DAILY, Oct. 1, 1996, at d2.

9. Before AIDS, state public health officials had nearly exclusive responsibility for regulating contagion. Federal activity in this area was essentially limited to preventing the introduction of contagion into the country and controlling its spread between the states. See 42 U.S.C. §§ 243, 264 (1994) (authorizing creation and enforcement of regulations to prevent spread of contagion into country and between states, including quarantines). Additionally, before AIDS, the federal Centers for Disease Control's activities were primarily confined to research and disease surveillance. See discussion *infra* at note 29 and accompanying text.

10. On October 27, 1992 the Centers for Disease Control changed its name to "Centers for Disease Control and Prevention," however, it retained its well-known acronym "CDC". Throughout this article "CDC" will refer to the organization under both its old and new name. Through its subsidiaries the CDC, the National Institute of Health ("NIH"), and the National Institute for Allergic and Infectious Disease ("NIAID"), the Department of Health and Human Services' primary

person transmission of infectious diseases.¹¹ Additionally, in 1987 the Occupational Safety and Health Administration ("OSHA")¹² catapulted itself into a dominant position in this field when it interpreted its statutory obligation to regulate workplace toxins and hazardous conditions under the Occupational Safety and Health Act (the "Act")¹³ to include disease-causing microbes carried by human beings.¹⁴ To date, OSHA has issued permanent standards on the human immunodeficiency virus ("HIV"),¹⁵ hepatitis B ("HBV"),¹⁶ and other bloodborne pathogens ("BBPs"),¹⁷ and it recently proposed a new standard for workplace exposure to people with tuberculosis ("TB").¹⁸

responsibility in this area is to conduct research and to make grants to state and non-profit agencies for research related to the treatment, control, and prevention of contagious diseases. See 42 U.S.C. §§ 241(a)(2)-(3), 241(c), 247b, 247c, 281 (1994).

11. For a history of the CDC's role in developing infection control guidelines, see Verla S. Neslund et al., *The Role of the CDC in the Development of AIDS Recommendations and Guidelines*, 15 LAW, MED. & HEALTH CARE 73 (1987).

12. In this article, the Occupational Safety and Health Act will be referred to as "the Act" while the Occupational Health and Safety Administration will be referred to as "OSHA."

13. OSHA is charged with ensuring that workplaces do not expose workers to unacceptable health and safety risks. See Occupational Safety and Health Act of 1970, 29 U.S.C. §§ 651-678 (1994). The Act authorizes OSHA to promulgate standards dealing with "toxic materials or harmful physical agent[s]." *Id.* § 655(b)(5).

14. OSHA's entry into the field of regulating contagion has received mixed reviews. See Helen M. Schinag, *The Occupational Safety and Health Administration's Bloodborne Pathogen Standard: An Important First Step Toward Protecting Employees From the Risks of Occupational Exposure*, 17 SETON HALL LEGIS. J. 541 (1993) (OSHA's bloodborne pathogens standard will protect health care workers and others who face occupational exposure from considerable risks faced daily). *But see* American Dental Ass'n v. Martin, 984 F.2d 823, 831-32 (7th Cir. 1993) (Coffey, J., concurring in part, dissenting in part) (OSHA's bloodborne pathogens standard unduly burdens health care employers with marginal risk reduction for employees); David R. Cherrington, *The Race to the Courthouse: Conflicting Views Toward the Judicial Review of OSHA Standards*, 1993 BYU L. REV. 95 (1994) (OSHA's bloodborne pathogens standard is economically burdensome on employers and offers little risk reduction benefits to employees).

15. Bloodborne Pathogens Standard, 29 C.F.R. § 1910.1030(b) (1996) (including HIV in definition of bloodborne pathogens).

16. See *id.* (including HBV in definition of bloodborne pathogens). Hepatitis B is caused by the hepatitis B virus ("HBV"), which damages and can destroy the liver. See *Martin*, 984 F.2d at 824. Like HIV, HBV is transmitted by infected body fluids. See *id.* Unlike HIV, HBV can survive outside the body and thus can be transmitted by contact with unsanitized laundry and surfaces. See *id.* About 1% of people infected with HBV die; 6% to 10% fully recover but become lifelong carriers, and 89% to 93% fully recover and do not remain infectious. See *id.* For a detailed discussion of the etiology, epidemiology, and treatment of HBV infection, see EDUARD KURSTAK, VIRAL HEPATITIS: CURRENT STATUS & ISSUES (1993).

17. See 29 C.F.R. § 1910.1030(b) (1996) (defining "bloodborne pathogens" and "other potentially infectious materials" both of which the standard regulates).

18. See Occupational Exposure to Tuberculosis, 62 Fed. Reg. 54,160 (1997) (to be codified at 29 C.F.R. § 1910) (proposed Oct. 17, 1997). Tuberculosis ("TB") is caused by *Mycobacterium tuberculosis* ("*M. TB*"), which is transmissible when a person with active TB coughs or sneezes and sends droplet nuclei containing the bacteria into the air. Centers for Disease Control, *National Action Plan to Combat Multidrug-Resistant Tuberculosis*, 41 MORBIDITY & MORTALITY WKLY. REP. 5, 5,

This article will take a critical look at OSHA and the CDC, which together constitute the federal system responsible for prospective regulation of the risk of contagion in institutional settings.¹⁹ In particular, this article will argue that OSHA's recent inclusion in this regulatory system is highly problematic given the uneasy fit between the substantive and procedural provisions of the Act, geared as they are toward regulating hazardous things, and the task of regulating contagion arising from human beings. The Act was not originally intended to curtail the spread of contagion within the population generally or to protect workers from contracting infectious diseases through workplace contact with microbes carried by other human beings.²⁰ Rather, it was enacted to reduce the increasing incidence of industrial accidents and work-related disease²¹ caused by non-human workplace hazards, specifically dangerous equipment,²² harmful physical agents,²³ and toxic substances,²⁴ many of which were associated with new technologies.²⁵ Neither the statute's language nor its legislative history

No. RR-11 (1992) [hereinafter Centers for Disease Control, *National Action Plan*]. Transmission can occur if an uninfected person is exposed to these airborne bacteria for a prolonged period of time. *See id.* Only about 10% of people with healthy immune systems who are infected with M. TB will develop active TB and become infectious sometime during their lifetimes. *See id.* Persons with compromised immune systems have a much greater likelihood of developing active disease and becoming infectious. *See* Lawrence O. Gostin, *The Resurgent Tuberculosis Epidemic in the Era of AIDS: Reflections on Public Health, Law, and Society*, 54 MD. L. REV. 1, 14 n.67 (1995). There is a 10% risk annually that people infected with HIV, which impairs the immune system, will develop active TB and become infectious. *See id.* at 14. The standard treatment protocol for active TB is three to four oral antibiotics taken for six months. *See id.* at 27. Nearly 100% of immunocompetent persons with active TB who complete this regimen are rendered non-infectious. *See id.*

19. While OSHA's authority is limited to regulating workplaces, the agency in effect has the authority to regulate contagion in every institutional setting, since every institution in which there is interaction between people who are and are not infected with a contagious disease is a workplace.

20. *See infra* notes 21-25 and accompanying text.

21. None of the occupational diseases expressly mentioned throughout the Act's legislative history is caused by microbes carried and transmitted by human beings. Specific examples include cancer, asbestosis, byssinosis, and respiratory ailments caused by industrial materials and processes. *See* SENATE COMM. ON LABOR AND PUBLIC WELFARE, OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970, S. REP. NO. 1282, at 142, 142-43 (1940), *reprinted in* 1970 U.S.C.C.A.N. 5177, 5178-79. Additionally, all of the data in the legislative history supporting the need for the Act pertain to industrial accidents and diseases arising from exposure to non-human workplace hazards. *See id.* at 142-44.

22. *See id.* at 153.

23. None of the "harmful physical agents" mentioned in the Act's legislative history is a microbe carried and transmitted by human beings. Specified examples are severe noise and vibration. *See id.* at 143.

24. None of the "toxic substances" expressly mentioned in the Act's legislative history is a microbe carried and transmitted by human beings. *See id.* Cited examples are carcinogenic chemicals, lasers, ultrasonic energy, beryllium metal, epoxy resins, and pesticides. *See id.* at 142.

25. In urging the enactment of OSHA, President Nixon referred to the mixed blessing of technological progress and the need to provide workers with up-to-date protection against the unintended side-effects of industrial innovation. *See id.* at 144-45.

indicates congressional intent to vest OSHA with the authority to safeguard workers' health by regulating their contact with human beings infected with contagious diseases.²⁶

Compared to toxic chemicals and dangerous physical conditions, the regulation of workplace risks posed by human beings implicates a substantially broader and more complex constellation of rights and interests. Because non-human workplace hazards possess no autonomous legal rights, reducing the risks associated with them requires the balancing of only two sets of rights and interests—employees' right to a safe working environment and employers' economic right to control their businesses and maximize profits. Consistent with its limited purpose of reducing non-human workplace hazards, the Act's conceptual structure and rulemaking process take into account and balance these, and only these, two sets of rights and interests.

However, workplace risks posed by human beings infected with infectious disease implicate several additional sets of rights and interests no less deserving of legal protection than employees' health rights and employers' economic rights. These are the civil rights and liberties of persons with an infectious disease ("PWIDs") and persons who are perceived to have an infectious disease ("perceived PWIDs"),²⁷ and the general public's right to

26. OSHA's promulgation of its bloodborne pathogens ("BBPs") and TB standards under § 655(b)(5) of the Act suggests that the agency interprets the phrase "toxic materials or harmful physical agents" in this section of the Act to include infectious microbes carried by human beings. See Occupational Exposure to Bloodborne Pathogens, 56 Fed. Reg. 64,004, 64,004 (1991) (codified at 29 C.F.R. § 1910.1030) (BBPs standard promulgated pursuant to § 655(b)); Occupational Exposure to Tuberculosis, 61 Fed. Reg. 23,271 (1996) (announcing OSHA's intention to promulgate TB standard pursuant to § 655(b)).

27. Infectious disease disproportionately affects sexual, racial, and ethnic minorities, poor people, and IV drug users. See Centers for Disease Control and Prevention, *First 500,000 AIDS Cases—United States, 1995*, 44 MORBIDITY & MORTALITY WKLY. REP. 849, 850, 852 tbl. 1 (1995) [hereinafter Centers for Disease Control and Prevention, *First 500,000 AIDS Cases—United States*] (rates of AIDS cases six and three times higher among African-Americans and Hispanics, respectively, than among whites; IV drug users and men who have sex with men accounted for 25% and 50.8%, respectively, of total AIDS cases from 1981 to October 1995). Centers for Disease Control, *Hepatitis B Virus*, *supra* note 4, at 3 (prevalence of hepatitis B infection among African-American adults and adolescents three to four times greater than prevalence among whites); Gostin, *supra* note 18, at 37-47 (resurgence of TB greatest among poor, ethnic and racial minorities, homeless, and people infected with HIV); Karen H. Rothenberg & Elizabeth C. Lovoy, *Something Old, Something New: The Challenge of Tuberculosis Control in the Age of AIDS*, 42 BUFF. L. REV. 715, 722 (1994) (approximately 70% of all TB cases occur among ethnic and racial minorities due to crowded substandard housing, homelessness, substance abuse, and limited access to health care). For currently identified and new infectious microbes, this disparity is likely to continue unless prevention strategies are adequately funded and widely adopted and until the problems of poverty, drug addiction, and inaccessible and inadequate health care are addressed. See Gostin, *supra* note 18, at 49-50 (high rate of persons in United States living in congregate settings, especially correctional facilities and nursing homes, creates ideal conditions for outbreaks of infectious disease); Peter A. Selwyn, *Tuberculosis in*

be protected against an unreasonable risk of contagion. When a PWID or a perceived PWID enters a workplace, the complex conflict of rights and interests that arises cannot be rationally and equitably resolved unless all of these rights and interests, not just those of employers and employees, are considered, weighed, and balanced.

This article will demonstrate that substantive and procedural provisions designed to regulate non-human phenomena by balancing two sets of rights, cannot be superimposed on a problem that requires the regulation of human beings and the balancing of multiple sets of rights without generating a panoply of theoretical distortions, regulatory irrationalities, and unintended consequences. The first section will provide an overview of the federal system for regulating contagion, and will describe and analyze the rulemaking process and the content of existing CDC and OSHA regulations. The second and third sections will examine the substantive and procedural provisions of the Act and the culture of OSHA, which together constrain the agency's ability to develop effective and equitable workplace contagion regulations. Finally, the last section will suggest how to reduce irrationality and inequity through reallocating authority to regulate contagion in institutions among the CDC, OSHA, and state public health officials and through OSHA's adherence to certain substantive principles and implementation of a number of procedural changes for regulation in this field.

II. FEDERAL REGULATION OF WORKPLACE CONTAGION

A. The Centers for Disease Control and Prevention

The CDC, which is a subsidiary of the Public Health Service ("PHS") and the Department of Health and Human Services, is this country's—and the world's—preeminent authority on the epidemiology and prevention of infectious diseases.²⁸ For most of the CDC's fifty-year history, its activities have primarily consisted of laboratory and field research into the causes of infectious diseases and collecting of surveillance data to assist state

the AIDS Era: A New Threat From An Old Disease, 91 N.Y. ST. J. MED. 233, 235 (1991) (effective control of infectious disease cannot be accomplished without addressing underlying social and economic causes). The prevalence of infectious disease among these disfavored groups, who already may be regarded as threatening because of their "otherness," increases the danger that minority group members will be perceived to be infectious, even if they are not, and as a result will be excluded from environments where they are perceived to pose an unacceptable threat.

28. See Centers for Disease Control and Prevention, *History of the CDC*, 45 MORBIDITY & MORTALITY WKLY. REP. 526, 526 (1996) [hereinafter Centers for Disease Control and Prevention, *History of the CDC*] (calling CDC "an institution synonymous around the world with public health").

prevention and control programs.²⁹ Since the advent of AIDS, however, a significant portion of the CDC's activities has been devoted to developing and disseminating practical guidelines to prevent the transmission of infectious diseases.³⁰ Since 1982, the CDC has issued many recommendations on preventing the transmission of HIV, HBV, TB, and other infectious microbes in a wide variety of institutional settings.³¹ On several occasions, guidelines have been developed in response to a specific congressional directive.³²

The CDC does not approach the problem of reducing the risk of occupational transmission of infectious disease by developing generic infection control guidelines applicable to all institutional settings in which a particular infectious agent, such as HIV or M. TB, presents a risk to workers. Instead, the CDC issues site-specific recommendations that include risk reduction measures for specific categories of employees.³³ Additionally, unlike OSHA, which is charged only with protecting workers' health, the CDC's mandate is to protect the public health generally.³⁴ Consequently, its recommendations typically include measures for preventing transmission to all persons at risk within an institution.³⁵

29. See *id.* For a detailed history of the CDC, see ELIZABETH W. ETHERIDGE, *SENTINEL FOR HEALTH: A HISTORY OF THE CENTERS FOR DISEASE CONTROL* (1992).

30. Neslund et al., *supra* note 11 at 73.

31. See, e.g., *infra* notes 33 and 35.

32. In 1988, Congress ordered the Secretary of Health and Human Services to transmit the CDC's guidelines on reducing health and public safety workers' risk of occupational exposure to HIV to the Secretary of Labor for use in developing a new permanent OSHA standard. 42 U.S.C. § 300ee-2 (1988). In 1990, Congress enacted the Ryan White Comprehensive AIDS Resources Emergency ("CARE") Act, which amended the Public Health Service Act to include provisions related to the exposure of emergency response employees to infectious disease. 42 U.S.C. §§ 300ff-81-300ff-90 (1990). In accordance with this amendment, the CDC developed a list of potentially life-threatening infectious diseases to which emergency response employees may be exposed; guidelines describing circumstances that present a risk of exposure; and guidelines for medical facilities to determine whether such an exposure has occurred. See *Implementation of Provisions of the Ryan White Comprehensive AIDS Resources Emergency Act Regarding Emergency Response Employees*, 59 Fed. Reg. 13,418 (1994).

33. See, e.g., Centers for Disease Control, *Acquired Immune Deficiency Syndrome (AIDS): Precautions for Health-Care Workers and Allied Professionals*, 32 MORBIDITY & MORTALITY WKLY. REP. 450 (1983) [hereinafter Centers for Disease Control, *AIDS Precautions for Health-Care Workers*] (CDC recommendations for preventing HIV transmission among health-care workers and allied health professionals); Centers for Disease Control, *Acquired Immune Deficiency Syndrome (AIDS): Precautions for Clinical and Laboratory Staffs*, 31 MORBIDITY & MORTALITY WKLY. REP. 577 (1982) [hereinafter Centers for Disease Control, *AIDS Precautions for Clinical and Laboratory Staffs*, 31 MORBIDITY & MORTALITY WKLY. REP. 577 (1982) [hereinafter Centers for Disease Control, *AIDS Precautions for Clinical and Laboratory Staffs*] (first set of CDC guidelines on preventing HIV transmission among clinical and laboratory workers in hospitals).

34. See generally Centers for Disease Control and Prevention, *History of the CDC*, *supra* note 28.

35. See, e.g., Centers for Disease Control and Prevention, *Guidelines for Preventing the*

The CDC, however, is not authorized to promulgate enforceable regulations.³⁶ Consequently, CDC guidelines become enforceable only if they are formally adopted by a state³⁷ or another federal agency with rulemaking authority, such as OSHA or the Food and Drug Administration ("FDA").

The CDC's lack of authority to promulgate enforceable regulations is a mixed blessing. On the positive side, the CDC's freedom from a congressionally prescribed rulemaking process has enabled the agency to utilize the procedures that it believes are best suited to developing recommendations for preventing the spread of contagious disease. Generally, the agency does not adhere to the notice and comment provisions of the Administrative Procedure Act ("APA").³⁸ Instead, the agency employs a consensus-based, expert-oriented approach to rulemaking, which enables it to develop guidelines comparatively quickly³⁹ and to modify recommendations readily in response to new scientific information.⁴⁰ Additionally, unlike agencies such as OSHA, which have formal rulemaking authority, the CDC is not subject to highly specific substantive, procedural, and regulatory

Transmission of Mycobacterium Tuberculosis in Health-Care Facilities, 1994, 43 MORBIDITY & MORTALITY WKLY. REP. 1, No. RR-13 (1994) [hereinafter Centers for Disease Control and Prevention, *Guidelines for Preventing the Transmission of Mycobacterium Tuberculosis in Health-Care Facilities*] (recommendations for preventing transmission of tuberculosis in health care facilities include measures for protecting patients and workers).

36. The CDC attributes its authority to issue guidelines to the section of its enabling legislation that authorizes the Public Health Service to provide "practical application" of its research on disease prevention. 42 U.S.C. § 241(a)(1) (1994). See Neslund et al., *supra* note 11, at 78.

37. For example, a majority of states adopted the CDC's 1991 guidelines for preventing the transmission of HIV and HBV from infected health care workers ("HCWs") to patients after Congress threatened to cut off federal public health monies to states that did not enact these or equivalent regulations. See Pub. L. 102-141, § 633, 105 Stat. 876, 876 (1991).

38. See Mary Anne Bobinski, *Risk and Rationality: The Centers for Disease Control and the Regulation of HIV-Infected Health Care Workers*, 36 ST. LOUIS U. L.J. 213, 243 n.116 (1991) (CDC asserts that it does not have rulemaking authority and therefore need not adhere to Administrative Procedure Act). Recently, however, the CDC has employed a notice and comment procedure for some recommendations. See, e.g., Draft Guideline for Infection Control in Health Care Personnel, 1997, 62 Fed. Reg. 41,276 (1997) (seeking comments on CDC's draft guidelines for infection control in health care personnel).

39. The CDC issued its first set of guidelines on preventing HIV transmission among laboratory and hospital workers in November of 1982, which was within only six months of receiving sufficient evidence to conclude that AIDS was caused by a bloodborne agent. See Neslund et al., *supra* note 11 at 73-4.

40. When the CDC issued its first set of guidelines to prevent health care workers from contracting AIDS from their patients in 1982, HIV had not yet been identified as the causative agent for the disease, and the antibody test to detect infection with the virus had not yet been developed. In response to increased scientific understanding of HIV, the CDC has periodically updated its guidelines for preventing occupational transmission of HIV. For a detailed analysis of the evolution of the CDC's guidelines for preventing HIV and HBV transmission between HCWs and patients, see Bobinski, *supra* note 38.

analysis requirements that can protract the rulemaking process.⁴¹

On the other hand, the CDC's dependence on federal agencies, Congress, or the states to imbue its recommendations with the force of law can result in prolonged periods during which workers and others are exposed to an excessive risk of exposure to contagion.⁴² Additionally, the CDC's internalized rulemaking largely shields its deliberative process from public scrutiny.⁴³

B. The Occupational Health and Safety Administration

Congress enacted the Occupational Health and Safety Act in 1970 "to assure so far as possible every working man and woman . . . safe and healthful working conditions[.]"⁴⁴ Congress vested the Occupational Safety and Health Administration, which is housed within the Department of Labor, with three tools to reduce occupational injuries and death. First, OSHA may issue emergency temporary standards to protect employees from "grave danger."⁴⁵ Second, OSHA may promulgate enforceable national standards to

41. Since it has no formal rulemaking authority and is not subject to the notice and comment requirements of the Administrative Procedures Act, the CDC is not subject to Executive Order No. 12,866, 58 Fed. Reg. 51,735 (1993), which requires agencies to conduct regulatory impact analyses for review by the Office of Management and Budget ("OMB"), or to the Regulatory Flexibility Act, 5 U.S.C. §§ 601-612 (1994), which requires agencies to calculate the costs of compliance for small businesses, or to the Small Business Regulatory Enforcement Fairness Act ("SBREFA"), 5 U.S.C.A. § 801 (1997), or the Unfunded Mandates Reform Act of 1995, 2 U.S.C.A. §§ 1501-1571 (1997). For an analysis of the impact of these requirements on OSHA's development of contagion standards, see *infra* notes 56-65 and accompanying text.

42. The most notorious example of this problem was the failure of the FDA, which regulates the blood industry, to adopt the CDC's recommendations for maintaining the safety of the nation's blood supply in the early years of the AIDS epidemic. In February 1983, the CDC recommended that all blood collection facilities screen all blood for hepatitis. This screening would also have eliminated at least two-thirds of donations tainted with HIV. However, the FDA chose not to adopt the CDC's recommendation. Instead, the FDA waited until 1985 to recommend the use of the HIV test, and until 1988 to order its use. Countless lives were lost between 1983 and 1985 because of the CDC's lack of authority to issue enforceable regulations. For a detailed analysis of the FDA's response to HIV, see Linda M. Dorney, Comment, *Culpable Conduct With Impunity: The Blood Industry and the FDA's Responsibility for the Spread of AIDS Through Blood Products*, 3 J. PHARMACY & L. 129 (1994); Ross D. Eckert, *The AIDS Blood Transfusion Cases: A Legal and Economic Analysis of Liability*, 29 SAN DIEGO L. REV. 203 (1992); GARRETT, *supra* note 2, at 313-15.

43. In response to criticism from AIDS organizations, the CDC has increasingly incorporated into its deliberative processes individuals who reflect the perspectives of those affected by its risk reduction recommendations. For example, in 1993, the CDC developed an unusually successful and culturally sensitive model for stemming a hantavirus outbreak in the southwestern United States with the help of Native Americans. See Centers for Disease Control and Prevention, *History of the CDC*, *supra* note 28, at 530. See also Neslund et al., *supra* note 11 at 75-6.

44. 29 U.S.C. § 651(b) (1970).

45. *Id.* § 655(c)(1). Emergency temporary standards, which are effective immediately upon publication in the Federal Register, remain in effect for six months. See *id.* § 655(c)(1)-(3). Thereafter,

assure “to the extent feasible . . . that no employee will suffer material impairment of health or functional capacity[.]”⁴⁶ Finally, the Act’s General Duty Clause obligates employers to provide places of employment that are “free from recognized hazards that are causing or are likely to cause death or serious physical harm[.]”⁴⁷ To enforce its standards and the General Duty Clause, OSHA is authorized to conduct unannounced workplace inspections⁴⁸ and to impose civil and criminal penalties upon noncompliant employers.⁴⁹

To set new permanent standards for workplace contagion, OSHA must comply with numerous substantive and procedural requirements contained in the Act and several other statutory and regulatory mandates. To comply with the substantive requirements of the Act, OSHA’s creation of a new contagion standard must be predicated upon a finding that an infectious disease presents a significant risk in the workplace that can be eliminated or lessened by a change in practices.⁵⁰ While OSHA need not justify contagion standards on the basis of a cost-benefit analysis, it must separately calculate the economic impact of proposed standards on each category of affected employer.⁵¹

The Act also specifies the procedure that OSHA must follow to set a new standard. OSHA must solicit input from employees, employers, and other interested parties at several stages of the rulemaking process.⁵² First, OSHA

if OSHA elects to promulgate a permanent standard, the emergency temporary standard serves as the proposed rule. *See id.*

46. *Id.* § 655(b)(5). The Act requires employers and employees to adhere to OSHA standards and orders. *See id.* § 654(a)-(b).

47. *Id.* § 654(a)(1).

48. *See id.* § 657.

49. *See id.* §§ 659, 666. If an employer contests a citation, a hearing must be held before the Occupational Safety and Health Review Commission (“OSHRC”), the agency’s adjudicatory arm. *See id.* § 659(c).

50. *See Industrial Union Dep’t v. American Petroleum Inst.*, 448 U.S. 607, 642 (1980).

51. The Act commands OSHA to set the standard that “most adequately assures, to the extent feasible . . . that no employee will suffer material impairment of health or functional capacity[.]” 29 U.S.C. § 655(b)(5) (1994). In *American Textile Manufacturers Institute v. Donovan*, 452 U.S. 490, 512-14 (1981), the Supreme Court held that, while this language does not require OSHA to perform cost-benefit analyses, it must establish that compliance by employers is economically manageable and technologically achievable. To meet this requirement, OSHA must estimate the cost of compliance for each industry affected by the standard. For example, OSHA estimated that compliance with its BBPs standard would cost all affected industries a total of \$813 million annually. *See Occupational Exposure to Bloodborne Pathogens*, 56 Fed. Reg. 64,004, 64,063 (1991) (codified at 29 C.F.R. § 1910.1030). Of this total, approximately \$785 million would be borne by the health care industry; \$26 million by law enforcement and fire and rescue operations; \$5 million by correctional facilities; \$6 million by schools; and \$500,000 by lifesaving operations. *See id.*

52. OSHA sometimes goes beyond its statutory duty to obtain public input. For example, OSHA held “stakeholder meetings” with professional groups, labor unions, and trade associations to solicit reactions to a draft proposal on tuberculosis before releasing a proposed rule. *See Occupational Exposure to Tuberculosis*, 61 Fed. Reg. 62,103, 62,103 (1996).

must draft, publish, and seek public comment on a proposed rule.⁵³ If objections to a proposed rule are filed, OSHA must schedule public hearings.⁵⁴ After considering the information it receives, OSHA must redraft and publish a final rule.⁵⁵

Before issuing a new standard, OSHA must complete an ever-increasing series of risk assessments, feasibility studies, workplace surveys, regulatory and environmental impact analyses, and cost-benefit calculations. Executive Order 12,866,⁵⁶ issued by President Clinton in 1993, requires OSHA to quantify and compare the costs and benefits of proposed standards and other available feasible regulatory alternatives.⁵⁷ The Small Business Regulatory Enforcement Fairness Act ("SBREFA")⁵⁸ requires OSHA to provide Congress with a detailed analysis of each new standard for its review.⁵⁹ If Congress passes a joint resolution disapproving of a standard, it cannot take effect until OSHA revises it⁶⁰ or the President determines that it is needed to prevent an imminent threat to health or safety.⁶¹ Under the Unfunded Mandates Reform Act of 1995,⁶² OSHA must assess the impact of a standard on private sector employers and determine whether it imposes any "unfunded mandates" on state, local, or tribal governments.⁶³ The Regulatory Flexibility Act requires OSHA to calculate the costs of compliance for small businesses and to assess whether any would be competitively disadvantaged.⁶⁴ Finally,

53. See 29 U.S.C. § 655(b)(2) (1994). This step is often preceded by OSHA's issuance of an Advanced Notice of Proposed Rulemaking, which summarizes its preliminary risk assessment, solicits public comment, and describes how the agency intends to proceed. See, e.g., Occupational Exposure to Hepatitis B Virus and Human Immunodeficiency Virus, 52 Fed. Reg. 45,438 (1987) (codified at 29 C.F.R. § 1910).

54. See 29 U.S.C. § 655(b)(3) (1994). Between September 1988 and January 1990, over 400 people participated in public hearings on OSHA's proposed standard for bloodborne pathogens in Washington, D.C., Chicago, New York, Miami, and San Francisco. See Occupational Exposure to Bloodborne Pathogens, 56 Fed. Reg. at 64,008.

55. See 29 U.S.C. § 655(b)(4) (1994). Judicial review of a standard must be sought within 60 days after the final rule is issued. See *id.* § 655(f).

56. Exec. Order No. 12,866, 58 Fed. Reg. 51,735 (1993).

57. See *id.* § 1(a). For a detailed analysis of Executive Order 12,866, see Richard H. Pildes & Cass R. Sunstein, *Reinventing the Regulatory State*, 62 U. CHI. L. REV. 1 (1995). For a detailed analysis of the process of regulatory analysis generally, see Thomas O. McGarity, *Regulatory Analysis and Regulatory Reform*, 65 TEX. L. REV. 1243 (1987).

58. 5 U.S.C.A. § 801 (1997).

59. See *id.* § 801(a)(B)(i). OSHA's analysis of its TB standard pursuant to the requirements of SBREFA appear at Occupational Exposure to Tuberculosis, 62 Fed. Reg. 54,160, 54,214-32 (1997) (to be codified at 29 C.F.R. § 1910) (proposed Oct. 17, 1997).

60. See 5 U.S.C. § 801(B)(1)-(2) (1994).

61. See *id.* § 801(c)(1)-(2)(1)(A) (1994).

62. 2 U.S.C.A. §§ 1501-1571 (1997).

63. See *id.* § 1501(7).

64. 5 U.S.C. §§ 601-612 (1994). OSHA's calculations of the impact of its BBPs standard on small businesses appear at Occupational Exposure to Bloodborne Pathogens, 56 Fed. Reg. 64,004,

OSHA must analyze the new standard's environmental impact.⁶⁵

OSHA depends on outside agencies and experts to perform many of these assessments and other critical functions. The National Institute of Occupational Safety and Health ("NIOSH") and the CDC, both of which are separately housed within the Department of Health and Human Services,⁶⁶ supply scientific data and review proposed contagion rules.⁶⁷ The Office of Management and Budget ("OMB") must review proposed and final contagion regulations, OSHA must respond to queries, and new standards cannot be issued until the OMB review is completed.⁶⁸ Finally, OSHA routinely retains outside consultants to perform mandated risk assessments and economic analyses.⁶⁹ To amend a workplace contagion standard, OSHA must again adhere to the substantive and procedural requirements of the Act

64,085-86 (1991) (codified at 29 C.F.R. § 1910.1030). OSHA's calculations of the impact of its proposed standard on TB on small businesses appear in Occupational Exposure to Tuberculosis, 62 Fed. Reg. 54,160, 54,220-21 tbl. VII-6 (1997) (to be codified at 29 C.F.R. § 1910) (proposed Oct. 17, 1997).

65. OSHA must analyze the environmental impact of its standards in accordance with the provisions of the National Environmental Policy Act of 1969 (NEPA), 42 U.S.C. §§ 4321-4370d (1994 & Supp. I 1995); the Council on Environmental Quality NEPA regulations, 40 C.F.R. § 1500 (1996); and the Department of Labor's NEPA Compliance Procedures, 29 C.F.R. § 11 (1996).

66. OSHA's housing within the Department of Labor and NIOSH's and CDC's housing within the Department of Health and Human Services can cause delays and coordination problems during this review process. See Sidney A. Shapiro & Thomas O. McGarity, *Reorienting OSHA: Regulatory Alternatives and Legislative Reform*, 6 YALE J. ON REG. 1, 7 (1989).

67. Interview with Claudia Thurber, Project Attorney, Occupational Health and Safety Administration, Washington, D.C. (April 11, 1996) [hereinafter Thurber Interview].

68. The Office of Information and Regulatory Affairs ("OIRA"), within the Office of Management and Budget, is specifically responsible for reviewing all regulatory impact statements and final rules. See Exec. Order No. 12,866 § 1(b)(12)(b), 58 Fed. Reg. 51,735 (1993). A proposed standard may be returned to OSHA for further consideration if the OIRA determines that it is inconsistent with the Act, with the President's priorities, the principles contained in the order, or with the policies or actions of another agency. See *id.* § 6(b). To expedite this process and make OMB's review less secretive, Executive Order 12,866 specifies a time frame for review and requires public disclosure. See *id.* Commentators have criticized both delays and other aspects of the OMB's regulatory review process that are not addressed by Executive Order 12,866. See Erik D. Olson, *The Quiet Shift of Power: Office of Management & Budget Supervision of Environmental Protection Agency Rulemaking Under Executive Order 12,291*, 4 VA. J. NAT. RESOURCES L. 1, 43 (1984) (OMB philosophically biased against command and control regulation); McGarity, *supra* note 57, at 1271-1317 (describing problems inherent in regulatory review process); Alan B. Morrison, *OMB Interference with Agency Rulemaking: The Wrong Way to Write a Regulation*, 99 HARV. L. REV. 1059 (1986) (OMB review places decisions in the hands of administrators with no expertise in the subject matter of regulations).

69. An outside consultant was retained to assess the impact on small businesses of the standard on BBPs. Additionally, in 1993, OSHA published its preliminary conclusion that tuberculosis posed a significant, and therefore regulatable, risk. See Occupational Exposure to Tuberculosis, 59 Fed. Reg. 20,643 (1994). A year later, however, it announced that it had retained several outside experts, including one from the CDC, to assist it with risk assessment. See Occupational Exposure to Tuberculosis, 60 Fed. Reg. 59,625 (1995) The other three risk assessors for tuberculosis were from academia. See *id.*

and all other applicable mandates.⁷⁰

1. OSHA's Standard on Bloodborne Pathogens

OSHA first entered the field of regulating workplace contagion in 1986 after a coalition of unions representing health care workers ("HCWs") petitioned the agency to develop a permanent standard for bloodborne pathogens.⁷¹ At the time, a panoply of publicly⁷² and privately developed⁷³ guidelines for reducing workplace exposure to bloodborne pathogens were in effect, including some issued by OSHA.⁷⁴ Nevertheless, the petitioners argued that enforceable and somewhat broader regulations were needed to adequately protect HCWs against occupational infection.⁷⁵ After denying the unions' request for a temporary emergency standard,⁷⁶ a work group of OSHA employees decided to promulgate an entirely new standard covering all bloodborne pathogens.⁷⁷

OSHA's assessment of the risk that workers face from exposure to BBPs is premised upon a "zero-exposure approach," which presumes that any

70. See 29 U.S.C. § 655(b) (1994).

71. See Occupational Exposure to Hepatitis B Virus and Human Immunodeficiency Virus, 52 Fed. Reg. 45,438, 45,438-39 (1987) (codified at 29 C.F.R. § 1910). The petitions were filed by the American Federation of State, County and Municipal Employees ("AFSCME"), the Service Employees International Union, the National Union of Hospital and Healthcare Employees, and RWDSU Local 1199—Drug, Hospital and Healthcare Union. See *id.*

72. Between 1982 and 1986, the CDC issued infection control guidelines to reduce occupational exposure to HIV and HBV among clinical and laboratory staffs, health care workers and allied health professionals, and dentists and dental workers. See Centers for Disease Control and Prevention, *Recommended Infection-Control Practices for Dentistry*, 1993, 42 MORBIDITY & MORTALITY WKLY. REP. 1 (1993) [hereinafter Centers for Disease Control and Prevention, *Recommended Infection—Control Practices for Dentistry*]; Centers for Disease Control, *AIDS Precautions for Health-Care Workers*, *supra* note 33; Centers for Disease Control, *AIDS Precautions for Clinical and Laboratory Staffs*, *supra* note 33.

73. The American Hospital Association ("AHA") and the American Occupational Medical Association ("AOMA") had also issued voluntary guidelines for reducing occupational exposure to HIV. See Occupational Exposure to Hepatitis B Virus, 52 Fed. Reg. at 45,438.

74. In 1983, OSHA issued voluntary guidelines, which were distributed to health care employers, to reduce worker exposure to hepatitis. See *id.* The guidelines included recommendations for risk-reducing work practices and the use of immunoglobulins and the HBV vaccine. See *id.* Additionally, OSHA's General Duty Clause and several non-specific regulations (such as the one requiring personal protective equipment) also protected workers from occupational exposure to bloodborne pathogens. See *id.*

75. The unions' demands of OSHA were rather modest. In particular, they requested that work practice guidelines issued by the CDC be enforced and that employers be required to provide HBV vaccines to employees at no cost, to provide training and counseling to employees at risk, and to post isolation precautions in patient areas. See *id.* Instead of responding to these specific requests, OSHA elected to promulgate an entirely new standard. See *id.* at 45,349.

76. See *id.* at 45,439.

77. Thurber interview, *supra* note 67.

workplace exposure to a body fluid poses an unacceptable risk because it can lead to transmission, infection, and illness.⁷⁸ In accordance with this assumption, OSHA's BBPs standard broadly applies to all settings⁷⁹ where it can be "reasonably anticipated" that an employee's skin, eyes, or mucous membranes may come into contact with blood or other body fluids.⁸⁰

Covered employers are subject to various engineering controls, work practice controls, personal protective equipment requirements, and information-related mandates.⁸¹ Employers must develop and implement an Exposure and Control Plan⁸² that identifies all employees at risk⁸³ and describes the risk-producing functions they perform⁸⁴ and the safety measures that have been implemented.⁸⁵ Employers must institute work practice controls, including the use of universal precautions ("UPs"),⁸⁶ hand

78. According to OSHA:

[E]ach exposure is associated with a unique risk which is the same for anyone exposed to the virus and depends upon the virulence of the pathogen, the size of the delivered dose, the route of exposure, among other factors, and not upon any prior exposure. Thus, in the case of bloodborne diseases, the best way to reduce the risk of transmission is by reducing exposure.

Occupational Exposure to Bloodborne Pathogens, 56 Fed. Reg. 64,004, 64,023 (1991) (codified at 29 C.F.R. § 1910.1030). OSHA distinguished this from exposure to other workplace hazards, such as certain carcinogens, which lead to illness only if the worker is repeatedly exposed to certain concentrations of the substance. *See id.*

79. OSHA has estimated that its BBPs standard applies to a total of 5.6 million workers, 78% of whom are employed in the health care industry. *See id.* at 64,038.

80. 29 C.F.R. § 1910.1030(b) (1996). Any employee who may come in contact with human blood and other potentially infectious materials and who comes under OSHA's purview is affected by this standard. *See Occupational Exposure to Bloodborne Pathogens*, 56 Fed. Reg. at 64,038. This overly broad language has led some commentators to conclude that the BBPs standard applies to all sports where there is a potential for contact with blood or body fluids. *See Reed D. Rubinstein & Adam J. Rubinstein, Walking the Line: Integrating the Requirements of OSHA's Bloodborne Pathogen Regulation and the Mandates of the ADA*, 66 CONN. B.J. 451, 463 n.82 (1992).

81. Employers that have any employees with occupational exposure as defined in the regulation must comply with all requirements. *See Occupational Exposure to Bloodborne Pathogens*, 56 Fed. Reg. at 64,038.

82. Exposure control plans must be made available to employees and OSHA. *See* 29 C.F.R. §§ 1910.1030(c)(1)(C)(iii), 1910.1030(c)(1)(C)(v) (1996). Exposure control plans must be updated annually and whenever changed circumstances affect occupational exposure, such as an alteration in employee tasks or the creation of new positions. *See id.* § 1910.1030(c)(1)(C)(iv) (1996).

83. *See id.* § 1910.1030(c)(1)(ii)(A) (1996).

84. Employers must determine which employees are at risk without regard to the employee's use of personal protection equipment. *See id.* § 1910.1030(c)(2)(C)(ii) (1996).

85. *See id.* § 1910.1030(c)(1)(ii)(B) (1996).

86. The concept of universal precautions, which was developed by the CDC in the early years of the AIDS epidemic, requires all HCWs to adhere to various sterilization techniques and to utilize barrier methods, such as gloves and gowns, that prevent any direct contact with the body fluids of all patients. OSHA's BBPs standard requires that employers provide "appropriate" personal protective equipment that does not permit blood or any other potentially infectious material to reach an employee's clothes or body. *See Occupational Exposure to Bloodborne Pathogens*, 56 Fed. Reg. at 64,126.

washing, use and disposal of needles and sharp instruments, and laundry handling techniques.⁸⁷ Employers must offer employees (but may not require that they avail themselves of) the vaccination for hepatitis.⁸⁸ All occupational exposures to any bloodborne pathogen must be documented and evaluated,⁸⁹ and exposed employees must be informed of the infection status of any person with whom they had contact.⁹⁰ Finally, workers must receive education on preventing occupational exposure to BBPs.⁹¹

2. OSHA's Proposed Standard on Tuberculosis

In 1993, a coalition of workers' groups petitioned OSHA to set a permanent standard for workplace exposure to people with tuberculosis.⁹² The petitioners complained that noncompliance with existing guidelines had led to several recent outbreaks of TB, including one in which a prison guard died from a drug-resistant strain.⁹³ In response, the OSHA work group that

87. See generally 29 C.F.R. § 1910.1030(d)(2) (1996).

88. See *id.* § 1910.1030(f).

89. See *id.* § 1910.1030(f)(3). Recently, OSHA proposed to expand employers' record-keeping obligations to include documenting exposure incidents that actually result in the transmission of HIV or the hepatitis virus, and recording all lacerations and puncture wounds involving contact with a potentially infectious material. See Occupational Injury and Illness Recording and Reporting Requirements, 61 Fed. Reg. 4030, 4041 (1996) (to be codified at 29 C.F.R. §§ 1904, 1952) (proposed Feb. 2, 1996). OSHA has not yet explained how employers will determine whether occupational exposure has actually led to infection. Currently, OSHA's BBPs standard requires that employees consent to the testing of their blood after an exposure incident. See 29 C.F.R. § 1910.1030(f)(3)(iii)(A) (1996). If OSHA elects not to preserve the requirement that employers obtain employees consent to testing, it could violate employees' rights under Americans with Disabilities Act, which permits only medical examinations that are job-related and consistent with business necessity. See 29 C.F.R. § 1630.14(c) (1996).

90. The standard provides that, in the event of an exposure incident, employers must identify the "source individual"; test the individual's blood if he or she consents, or if permitted by law without consent; and disclose the results to the employee. If the employer already knows the source individual's infection status, it must be disclosed to the employee. See 29 C.F.R. § 1910.1030(f)(3) (1996). Arguably, this provision requires employers to seek court-ordered testing if a source individual refuses to consent. See 29 C.F.R. § 1910.1030(f)(3)(ii)(A) (1996): "If consent is not obtained, the employer shall establish that legally required consent cannot be obtained."

91. See 29 C.F.R. § 1910.1030(g)(2) (1996). Unfortunately, the provisions regarding employee training do not require that employees receive education designed to reduce discrimination against persons infected with BBPs. For a detailed description of the employee information and training requirements, see Occupational Exposure to Bloodborne Pathogens, 56 Fed. Reg. at 64,164-69.

92. See Occupational Exposure to Tuberculosis, 59 Fed. Reg. 57,143, 57,143 (1993) (proposed Nov. 14, 1994). The petition was filed by the Labor Coalition to Fight TB in the Workplace. See *id.*

93. See *id.* (petitioners' assertion that noncompliance with CDC guidelines evident in every recent TB outbreak investigated by the CDC). Cases of TB that are resistant to one or more of the standard drug treatments, known as multidrug-resistant TB ("MDR-TB"), began increasing in the late 1980s. When the microbe that causes tuberculosis is resistant to the two most effective drugs, the course of treatment for immunocompetent persons increases from 6 months to 18-24 months and the cure rate declines from nearly 100 percent to less than or equal to 60 percent. For patients with

had developed the BBPs standard examined existing protections and assessed whether TB posed a significant and thus regulatable workplace risk. After deciding that an emergency temporary standard was not warranted, and rejecting the option of enforcing existing CDC guidelines,⁹⁴ the group decided instead to produce a new permanent standard.⁹⁵

The scope of OSHA's proposed standard for occupational exposure to tuberculosis⁹⁶ ("TB Standard") is substantially similar to that of existing CDC recommendations.⁹⁷ However, in addition to applying to workplaces covered by site-specific CDC recommendations, such as health care facilities,⁹⁸ prisons,⁹⁹ drug treatment facilities, and homeless shelters,¹⁰⁰ OSHA's TB Standard also applies to emergency medical services, home health care, home based hospice care,¹⁰¹ and providers of social work, social welfare, teaching, law enforcement, and legal services in covered work settings.¹⁰²

Employers in covered work settings are subject to varying risk reduction requirements contingent on local infection rates and on whether individuals with "suspected"¹⁰³ or "confirmed"¹⁰⁴ infectious TB are admitted into the

compromised immune systems, drug-resistant TB is largely incurable and lethal. *See* Centers for Disease Control, *National Action Plan*, *supra* note 18, at 7.

94. The CDC guidelines on TB in effect at the time OSHA undertook standard-setting covered correctional institutions, health care facilities, homeless shelters, long-term care facilities for the elderly, and drug treatment centers. *See* Occupational Exposure to Tuberculosis, 59 Fed. Reg. at 57,143. Additionally, in 1993, OSHA had interpreted and enforced a standard that generally required employers to provide respirators to employees to include protection against TB. *See* 29 C.F.R. 1910.134(a)(2) (1996); Secretary of Labor v. Columbia Presbyterian Hosp., No. 93-298, 1996 WL 18880 (O.S.H.R.C. Jan. 2, 1996) (citation issued against hospital for failure to provide adequate respirators to protect hospital personnel against infection with TB).

95. *See* Occupational Exposure to Tuberculosis, 59 Fed. Reg. 57,143 (1994) (proposed Nov. 14, 1994).

96. Occupational Exposure to Tuberculosis, 62 Fed. Reg. 54,160 (1997) (to be codified at 29 C.F.R. § 1910) (proposed Oct. 17, 1997).

97. *See id.* at 54,284 (incorporating 29 C.F.R. § 1910.1035(a) into proposed standard).

98. *See* Centers for Disease Control and Prevention, *Guidelines for Preventing the Transmission of Mycobacterium Tuberculosis in Health-Care Facilities*, *supra* note 35.

99. *See* Centers for Disease Control and Prevention, *Prevention and Control of Tuberculosis in Correctional Facilities*, 45 MORBIDITY & MORTALITY WKLY. REP. 1, No. RR-8 (1996) [hereinafter Centers for Disease Control and Prevention, *Prevention and Control of Tuberculosis*].

100. *See* Centers for Disease Control, *Prevention and Control of Tuberculosis Among Homeless Persons*, 41 MORBIDITY & MORTALITY WKLY. REP. 13, No. RR-5 (1982) [hereinafter Centers for Disease Control, *Prevention and Control of Tuberculosis*].

101. *See* Occupational Exposure to Tuberculosis, 62 Fed. Reg. at 54,284.

102. *See id.*

103. The standard defines suspected infectious tuberculosis as a potential disease state in which an individual is known, or with reasonable diligence should be known, by the employer to have one or more of the following conditions, unless the individual's condition has been medically determined to result from a cause other than TB: (1) To be infected with *M. tuberculosis* and to have the signs or symptoms of TB; (2) To have a positive acid-fast

workplace. Employers are subject to all requirements contained in the standard if they (1) admit or provide services to individuals with “suspected or confirmed infectious TB,” (2) have encountered a case of confirmed infectious TB within twelve months, or (3) are located in a county that, in the past two years, has had any cases of confirmed infectious TB in one year and at least six cases in the other year.¹⁰⁵ Facilities that meet none of these conditions are subject to a limited program of risk reduction because they are considered to pose a lower risk to employees.¹⁰⁶

Employers at higher-risk facilities (those that meet any one of the three conditions described above) must develop a written Exposure Control Plan that identifies all employees with potential occupational exposure to TB and that describes risk reduction measures that have been implemented.¹⁰⁷ Additionally, all covered employers must develop procedures to promptly identify individuals with suspected or confirmed infectious TB who seek entry to a facility.¹⁰⁸ The standard does not specify the procedures that employers must use to identify suspected or confirmed cases.¹⁰⁹ Rather,

bacilli (AFB) smear; or (3) To have a persistent cough lasting 3 or more weeks and 2 or more symptoms of active TB (e.g., bloody sputum, night sweats, weight loss, fever, anorexia).

Id. at 54,292.

104. The standard defines confirmed infectious tuberculosis as a disease state that has been diagnosed by positive identification of *M. tuberculosis* from body fluid or tissue through positive culture, positive gene probe, or positive polymerase chain reaction (PCR). The disease state must be capable of being transmitted to another individual (e.g., pulmonary or laryngeal TB or extrapulmonary TB where infected tissue is exposed and could generate droplet nuclei).

Id.

105. *See id.* at 54,284.

106. Employers that qualify for the limited risk reduction program must prepare a written exposure control plan; conduct baseline skin tests and gather medical histories of employees with potential occupational exposure; provide medical management and follow-up after an exposure incident; provide training to employees with potential occupational exposure; and comply with certain record-keeping requirements. For a detailed explanation of these requirements, *see id.* at 54,293.

107. *See id.* at 54,285. Potential exposure must be determined without regard to the use of respiratory protection. *See id.*

108. *See id.*

109. Infectious TB is difficult to diagnose quickly, particularly in persons infected with HIV, because there is a high rate of false negatives on tuberculin skin tests; because radiographs may not show symptoms; and because it takes a minimum of two to four weeks for laboratory tests to confirm clinically active infection. *See Gostin, supra* note 18, at 17-20; Dixie E. Snyder & William L. Roper, *The New Tuberculosis*, 326 *NEW ENG. J. MED.* 703, 704 (1992). In contrast to OSHA's failure to specify diagnostic techniques, the CDC recommends that persons with active TB be identified by a “high clinical index of suspicion for tuberculosis” and use of the most sensitive and rapid laboratory methods available, such as fluorescence microscopy, radiometric cultures, and drug susceptibility testing. *See Samuel W. Dooley et al., Multidrug-Resistant Tuberculosis*, 117 *ANNALS INTERNAL MED.* 257, 258 (1992). By requiring that facilities base their determination of infectiousness on individualized and scientific criteria, the CDC's standard better comports with the Americans with Disabilities Act. *See discussion infra* note 123.

employers are permitted to develop their own identification procedures,¹¹⁰ which, at homeless shelters, for example, can consist of merely observing persons for symptoms of active TB, such as coughing and sneezing, and obtaining a medical history.¹¹¹

Once a suspected or confirmed case is identified, the standard gives employers at higher-risk facilities two options. Employers may immediately transfer the individual to another facility equipped with acid-fast bacilli ("AFB") isolation rooms.¹¹² While awaiting transfer, the individual must be masked or segregated from employees.¹¹³ Alternatively, facilities may admit individuals with suspected or confirmed TB and become subject to additional requirements.¹¹⁴ Individuals with suspected or confirmed infectious TB who are admitted into a workplace must be segregated in an AFB room and thereby separated from employees.¹¹⁵ Also, engineering controls must be installed in other areas that present a risk of transmission to employees.¹¹⁶ Finally, employees at these facilities must be told who is infectious¹¹⁷ and must be provided with respiratory protection to use when they have contact with infectious individuals under circumstances that pose a risk of transmission.¹¹⁸

In addition to protecting workers from exposure to TB carried by non-employees, the standard seeks to reduce the risk of worker-to-worker transmission. Employees with possible occupational exposure must be tested for TB when hired, periodically thereafter, and prior to termination.¹¹⁹

110. See Occupational Exposure to Tuberculosis, 62 Fed. Reg. 54,160, 54,285 (1997) (to be codified at 29 C.F.R. § 1910) (proposed Oct. 17, 1997).

111. See *id.* at 54,247. For a discussion of the civil rights and public health implications of this provision, see discussion *infra* notes 161-64.

112. See Occupational Exposure to Tuberculosis, 62 Fed. Reg. at 54,285.

113. See *id.*

114. In explaining the transfer option, OSHA has stated: The standard does not require any employer to transfer individuals with suspected or confirmed infectious TB. Transfer is an option that employers have that relieves the employer of many provisions of the standard, such as AFB isolation rooms. See *id.* at 54,286.

115. See *id.* at 54,284-85.

116. See *id.* at 54,285-86. For example, engineering controls must be installed in isolation rooms or areas and in areas where high hazard procedures and autopsies are performed. See *id.* at 54,254. Engineering controls need not be installed by providers of home health care or home-based hospice care. See *id.*

117. See *id.* at 54,285. All employees who may be exposed to infectious individuals are entitled to receive information identifying suspected and confirmed cases. See *id.* at 54,246.

118. Employers must wear respirators when entering an AFB room or other area occupied by an unmasked person with suspected or confirmed TB; when performing procedures or delivering services to an unmasked person with suspected or confirmed TB; when transporting an unmasked person with suspected or confirmed TB within the facility; or when transporting a person with suspected or confirmed TB to another facility in an enclosed vehicle. See *id.* at 54,287.

119. New hires must be screened for TB unless they have been tested within the past 12 months.

Employers must record exposure incidents¹²⁰ and provide medical examinations and treatment to infected workers.¹²¹ If an exposure incident results in occupational transmission, the source individual must be tested to determine whether he or she is infected with a drug-resistant strain.¹²² Employees with suspected or confirmed infectious TB must be removed from the workplace until they are no longer infectious,¹²³ and excluded employees must receive full salary and benefits and be reinstated when they are no longer infectious.¹²⁴

Finally, all employers subject to the standard must provide training to employees about the epidemiology of TB, its signs and symptoms, the modes of transmission, and infection control procedures, including the proper use of personal protective equipment.¹²⁵

III. SUBSTANTIVE CONSTRAINTS ON OSHA'S REGULATION OF CONTAGION

A. Inadequate Regulatory Authority

As previously stated, the singular objective of the Occupational Health and Safety Act is to reduce job-related employee illness and injury.¹²⁶ Consequently, OSHA's authority is limited to imposing risk reduction

See id. at 54,289. The standard also requires that at-risk and exposed employees be tested at regular intervals and before termination of employment. *See id.*

120. An exposure incident is defined as "an event in which an employee has been exposed to an individual with confirmed infectious TB or to air containing aerosolized *M. tuberculosis* without the benefit of applicable exposure control measures[.]" *See id.* at 54,292.

121. Employees must be tested as soon as feasible after an exposure incident and three months later if the initial post-exposure test is negative. *See id.* at 54,289.

122. *See id.*

123. *See id.* By summarily requiring the exclusion of employees with suspected or confirmed TB from the workplace, OSHA's TB Standard seems to run afoul of the Americans with Disabilities Act, which protects employees with contagious diseases from unlawful discrimination in employment. *See* Americans with Disabilities Act of 1990, 42 U.S.C. §§ 12101-12213 (1994 & Supp. I 1995). Unlike the OSHA standard, the Americans with Disabilities Act requires that employers determine whether a reasonable accommodation would reduce the risk to acceptable levels. *See* 29 C.F.R. § 1630.2(r) (1996). Additionally, unlike the OSHA standard, the Americans with Disabilities Act requires that employers base the decision to exclude an employee with a contagious disease from the workplace on scientific and objective evidence that he or she poses a direct threat to others. *See id.* OSHA's TB Standard fails to include either of these preconditions for excluding an employee with suspected or confirmed TB from the workplace.

124. *See* Occupational Exposure to Tuberculosis, 62 Fed. Reg. 54,160, 54,289 (1997) (to be codified at 29 C.F.R. § 1910) (proposed Oct. 17, 1997).

125. *See id.* at 54,290. Trainings must be scheduled within 60 days after the effective date of the standard, before employees are assigned to at-risk tasks, and at least annually thereafter, unless the employer can demonstrate that the employee has the required specific knowledge and skills. *See id.*

126. *See supra* note 44.

measures that protect employees' health and safety. The agency cannot impose measures intended to protect the health of non-employees in a workplace or the public health generally.¹²⁷ OSHA regulations that seek to accomplish goals, no matter how laudable, other than protecting worker health have been invalidated.¹²⁸

At best, the Act's limited objective results in missed opportunities for government intervention that could protect the public health by reducing the spread of contagious disease among the population. For example, OSHA's TB Standard does not, and indeed could not, require employers to establish on-site clinics at homeless shelters, provide treatment referrals or directly observed therapy ("DOT") for persons determined to have infectious TB,¹²⁹ create non-congregate housing,¹³⁰ or even educate persons with suspected or confirmed infectious TB about the need for immediate treatment and the risk of transmission—all of which are necessary to stem the spread of TB.¹³¹

At worst, the Act's restrictive focus on reducing employee health risks can lead to OSHA regulations that actually increase the risk that non-employees in a workplace will be exposed to a contagious disease. For example, OSHA's TB Standard requires employers to either mask individuals with suspected or confirmed infectious TB who are awaiting transfer or to segregate them in a confined area where they will not have contact with employees who are not wearing respiratory protection.¹³² Shelters are not required, however, to implement measures to prevent TB

127. See, e.g., Occupational Exposure to Bloodborne Pathogens, 56 Fed. Reg. 64,004, 64,135 (1991) (codified at 29 C.F.R. § 1910.1030) (acknowledgment by OSHA that requiring infection controls to reduce patient-to-patient transmission of BBPs is beyond the scope of the Act).

128. See, e.g., American Textile Manufacturers Institute v. Donovan, 452 U.S. 490, 540 (1981) (invalidating OSHA's wage guarantee regulation because the Act does not authorize OSHA "to repair general unfairness" unrelated to protecting employee health and safety).

129. For a discussion of the benefits of DOT (simply watching while a patient takes his or her TB medication) as a method of controlling the spread of TB among the homeless, see Rothenberg & Lovoy, *supra* note 27, at 752: "Probably the single most cost-effective means of controlling the spread of TB is the administration of directly observed therapy (DOT) . . . DOT can be performed either by health care personnel at public health clinics, at homeless shelters or shelter clinics, and at drug treatment centers."

130. Advocates for the homeless have long argued that the battle against TB cannot be won until permanent alternatives to congregate housing are created for this population. See, e.g., Virginia Shubert, *Developing A System for Tuberculosis Prevention in New York City*, 1 GEO J. ON FIGHTING POVERTY 418, 426 (1994) ("[F]or homeless persons, effective ongoing TB treatment is possible only through access to non-shelter housing.").

131. See Centers for Disease Control and Prevention, *Prevention and Control of Tuberculosis*, *supra* note 99, at 18-19 (recommending directly observed therapy, on-site treatment, and educating persons with TB about how to prevent transmission to others).

132. See Occupational Exposure to Tuberculosis, 62 Fed. Reg. 54,160, 54,185 (1997) (to be codified at 29 C.F.R. § 1910) (proposed Oct. 27, 1997). Individuals with suspected or confirmed infectious TB awaiting transfer cannot be confined for more than five hours. See *id.*

transmission among persons confined in these areas, by, for example, mandating that all persons be masked.¹³³ If unmasked persons who are not in fact infected with TB are confined with unmasked persons who are infectious, transmission is possible. Moreover, segregating unmasked persons with infectious TB together in a confined area creates the risk that they will become superinfected with drug-resistant strains of TB.¹³⁴ Additionally, the TB Standard mandates the installation of engineering controls in areas that present a significant risk to employees, but not in areas that present a significant risk to non-employees, such as the congregate sleeping areas of homeless shelters.¹³⁵ If persons with infectious TB are mistakenly admitted into congregate areas of a homeless shelter that lack engineering controls, the conditions for the transmission of TB to uninfected patrons are ideal.¹³⁶

The Act's limited focus can also lead to regulations that reduce employees' risk of contagion while increasing the risk of contagion to the population as a whole. For example, OSHA's TB Standard does not precondition a facility's right to transfer a person with confirmed or suspected infectious TB upon finding available accommodations for the individual at another appropriate facility.¹³⁷ Thus, an employer could exclude a PWID or perceived PWID and do no more than provide the individual with directions to another facility that in fact is full to capacity.¹³⁸ In the case of homeless shelters, this employer prerogative may over the long term cause

133. In explaining its rationale for diverging from the CDC's recommendation that such persons be masked, OSHA has stated, "It is OSHA's mission to protect employees from occupational exposure to tuberculosis and it is not the Agency's intent to dictate medical practice relative to individuals with suspected or confirmed infectious TB." *Id.* at 54,251-52.

134. To reduce this risk, the CDC recommends that persons with suspected or confirmed infectious TB not be isolated together unless medical testing reveals that it is safe to do so. *See* Centers for Disease Control and Prevention, *Guidelines for Preventing the Transmission of Mycobacterium Tuberculosis in Health-Care Facilities*, *supra* note 35, at 27.

135. For a description of the engineering controls that can reduce the risk of TB transmission between residents and between residents and employees in a homeless shelter, see Rothenberg & Lovoy, *supra* note 27, at 752 (examples of risk-reducing engineering controls include negative pressure window fans and ventilation, filter, and UV light controls).

136. Indeed, given the difficulty of quickly determining whether a person has infectious TB, it is likely that persons who are infectious will slip through screening procedures. *See supra* note 105. To control the spread of TB in homeless shelters and protect the health of residents, the CDC recommends the installation of engineering controls throughout facilities. *See* Centers for Disease Control, *Prevention and Control of Tuberculosis*, *supra* note 100, at 18.

137. *See* Occupational Exposure to Tuberculosis, 62 Fed. Reg. at 54,285.

138. This option does not apply to hospitals. The federal Emergency Medical Treatment and Active Labor Act, 42 U.S.C. § 1395dd (1994), generally prohibits hospitals from refusing to treat patients with emergency medical conditions. Additionally, local and state statutes may bar hospitals from denying care. *See, e.g.*, N.Y. PUB. HEALTH LAW § 2805-b (McKinney 1993) (requiring general hospitals to admit patients in need of treatment).

homeless persons with TB to avoid shelters altogether, and instead to seek shelter in other congregate settings that may be even more conducive to the spread of TB.

Finally, the Act fails to protect many of the employees who face the greatest risk of occupational exposure to infectious disease.¹³⁹ In many states, OSHA does not have the authority to impose enforceable standards on public facilities, which tend to provide services to those populations with the incidence of infectious disease is highest.¹⁴⁰ As a result, its capacity to remedy the problem of non-compliance with CDC guidelines, which led to its entry into this regulatory field in the first place, is severely curtailed.

B. Biased Substantive Criteria for Administrative Decision Making

While there is considerable disagreement among scholars about the optimal degree of specificity in an agency's enabling legislation,¹⁴¹ statutes must, at a minimum, fully articulate Congressional objectives and identify the values that administrators must consider when making policy choices and choosing implementation strategies.¹⁴² Because the Occupational Safety and

139. The Act exempts federal, state, and municipal government employers. See 29 U.S.C. § 652(5) (1994). Additionally, OSHA-approved plans cover state employees in only 22 states and Puerto Rico. 29 C.F.R. § 1952 (1990). In the remaining states, public-sector employees are not covered by OSHA or OSHA-approved state plans. The Act does not cover employees who work off-site, independent contractors, or student interns. See 29 U.S.C. § 652(6) (1994); *Martin*, 984 F.2d 823, 830 (7th Cir. 1993) (OSHA's BBPs standard does not apply to employees in sites not controlled by the employer). Finally, the Act does not cover volunteers, such as those staffing homeless shelters. See Occupational Exposure to Tuberculosis, 62 Fed. Reg. at 54,326.

140. OSHA's contagion standards do not protect workers in state and locally run facilities, such as hospitals, homeless shelters, drug treatment facilities, and prisons, in the District of Columbia and in the 25 states that do not have OSHA-approved plans. Interestingly, OSHA does not cover all of the public facilities that experienced outbreaks of MDR-TB in the early 1990s due to noncompliance with CDC guidelines. For example, OSHA does not cover public hospital employees in Florida, which is one of the states in which there was a reported fatal outbreak of MDR-TB. Centers for Disease Control, *Nosocomial Transmission of Multidrug-Resistant Tuberculosis to Health-Care Workers and HIV-Infected Patients in an Urban Hospital—Florida*, 39 MORBIDITY & MORTALITY WKLY. REP. 718 (1990). For a complete list of states with OSHA-approved plans, see MARK A. ROTHSTEIN, OCCUPATIONAL SAFETY AND HEALTH LAW § 40, at 48 (3d ed. 1990).

141. See, e.g., Mark Seidenfeld, *A Big Picture Approach to Presidential Influence on Agency Policy-Making*, 80 IOWA L. REV. 1, 6-7 (1994) (Congressional attempts to control agencies through highly specific statutes may make agencies more vulnerable to capture by powerful groups); Edward L. Rubin, *Law and Legislation in the Administrative State*, 89 COLUM. L. REV. 369 (1989) (legislation should state basic goals and various implementation strategies); Sidney A. Shapiro & Robert L. Glicksman, *Congress, the Supreme Court, and the Quiet Revolution in Administrative Law*, 1988 DUKE L.J. 819, 844 (overly specific statutes reduce agencies' flexibility at problem solving and developing optimal solutions); Cass R. Sunstein, *Constitutionalism After the New Deal*, 101 HARV. L. REV. 421, 482 (1987) (statutes that specify ends and values are preferable to those that specify means).

142. See Cass R. Sunstein, *Factions, Self-Interest, and the APA: Four Lessons Since 1946*, 72 VA. L. REV. 271, 282 (1986) ("The purpose of the regulatory process is to select and implement the values

Health Act's singular goal is to protect worker health, the only values identified within the statute are employee health rights and employer economic rights.¹⁴³ While the Act authorizes OSHA to weigh these two sets of values when deliberating on the specific content of standards, Section 6(b)(5) limits these deliberations.¹⁴⁴ Specifically, this section expresses Congress' judgment that, as a general rule, employee health rights should take precedence over employer economic rights.¹⁴⁵ However, by explicitly tempering this principle with the requirement of "feasibility," Congress expressed its value-based determination that employers' economic rights should prevail over employee health rights when the cost of risk reduction measures would cause substantial economic dislocation among affected industries.¹⁴⁶

While the Act may provide OSHA with an adequate statement of objectives and values for resolving conflicts related to the regulation of workplace toxins and dangerous physical conditions, it does not provide sufficient guidance for regulating contagion.¹⁴⁷ Specifically, the Act's failure to identify any goals other than the protection of employee health (such as the protection of the public health generally) and to explicitly value the rights

that underlie the governing statute.").

143. Indeed, the Occupational Health and Safety Act has been held up as a model of legislative drafting that unambiguously expresses a singular policy objective. Colin S. Diver, *Policymaking Paradigms in Administrative Law*, 95 HARV. L. REV. 393, 413 (1981) (describing the Act as "single-purpose").

144. The Act requires OSHA to set the standard "which most adequately assures, to the extent feasible," that no employee will suffer material impairment of health. 29 U.S.C. § 655(b)(5) (1994).

145. See *American Textile Manufacturers Institute v. Donovan*, 452 U.S. 490, 540 (1981) ("When Congress passed the Occupational Safety and Health Act in 1970, it chose to place pre-eminent value on assuring employees a safe and healthful working environment, limited only by the feasibility of achieving such an environment.").

146. Courts have uniformly held that a standard is feasible even if individual businesses would be driven from the market. To be found not feasible, it must be shown that a standard would threaten whole industries. See, e.g., *American Textile Manufacturers Institute v. Donovan*, 452 U.S. 490, 530-31 n.55 (suggesting the standard that threatened long-term profitability and competitiveness of an industry would not be feasible under the Act); *AFL-CIO v. Brennan*, 530 F.2d 109 (3d Cir. 1975) (standard not feasible if it will result in massive economic dislocation), *accord*, *National Grain & Feed Ass'n v. OSHA*, 866 F.2d 717, 739 (5th Cir. 1989); *ASARCO, Inc. v. OSHA*, 746 F.2d 483 (9th Cir. 1984); *Donovan v. Castle & Cooke Foods*, 692 F.2d 641 (9th Cir. 1982); *AFL-CIO v. Marshall*, 647 F.2d 1189 (D.C. Cir. 1980).

147. Several commentators have argued that the Act does not provide OSHA administrators with sufficient guidance to resolve conflicts inherent in the regulation of toxic substances and hazardous conditions. See, e.g., Susan Rose-Ackerman, *Progressive Law and Economics and the New Administrative Law*, 98 YALE L.J. 341, 360 (1988) (the Act is specific about procedures but vague about how tradeoffs between the interests of workers, employers, and customers should be made). Additionally, Justice Rehnquist has consistently taken the position that the Act fails to make hard policy choices about the relative value of worker safety and economic costs, and that, as a consequence, it unconstitutionally delegates congressional responsibility to the executive branch. *American Textile Mfrs.*, 452 U.S. at 547 (Rehnquist, J., dissenting).

of other parties affected by contagion regulations creates the risk that OSHA will routinely value the rights and interests of employers and employees at the expense of PWIDs, perceived PWIDs, and the public.¹⁴⁸

Aspects of OSHA's BBPs and TB standards support this hypothesis. For example, OSHA rejected a program of mandatory vaccination for HCWs against hepatitis,¹⁴⁹ even though the vaccine is 96% effective and safe,¹⁵⁰ because it unduly infringed upon employees' privacy and religious rights.¹⁵¹ Thus, when faced with a choice between protecting employees against a relatively minimal intrusion upon their privacy and protecting the health of the public, OSHA opted to protect employee rights.¹⁵²

OSHA's contagion standards are significantly less protective of privacy rights, even when the rationale for intrusion is hardly compelling, when the

148. Several courts have stated that the Act contemplates a bias on the part of OSHA toward protecting the health and safety of workers. *See, e.g., Industrial Union Dep't v. American Petroleum Inst.*, 448 U.S. 607, 656 (1980) (OSHA is free to use conservative assumptions in interpreting data so long as it errs on side of overprotection rather than underprotection of workers); *Building and Constr. Trades Dep't v. Brock*, 838 F.2d 1258, 1266-67 (D.C. Cir. 1988) (OSHA's bias in favor of employees acceptable so long as it results in decreased risk to employee health).

149. *See* 29 C.F.R. §§ 1910.1030(f), 1910.1030(g)(2)(vii)(I) (1996) (employer shall make HBV vaccination available to all employees who have occupational exposure). The CDC supported OSHA's decision not to make HBV vaccinations of HCWs mandatory. *See* Occupational Exposure to Bloodborne Pathogens, 56 Fed. Reg. 64,004, 64,154 (1991) (codified at 29 C.F.R. § 1910.1030). However, in its own recommendations, the CDC has stated that health care and public safety workers who perform tasks involving contact with blood "should be vaccinated." Centers for Disease Control, *Hepatitis B Virus*, *supra* note 4, at 14. Some states require certain workers to be vaccinated against HBV. *See, e.g., Kohl v. Woodhaven Learning Ctr.*, 865 F.2d 930, 939 (8th Cir. 1989) (noting Missouri requirement that workers in all public mental health facilities receive HBV vaccination or sign a release).

150. *See* Occupational Exposure to Bloodborne Pathogens, 56 Fed. Reg. at 64,154-55 (discussing efficacy of HBV vaccine).

151. *See id.* at 64,155 (discussing invasion of privacy). However, mandatory vaccination programs are not illegal. It has long been settled that government does not violate the Constitution by instituting mandatory immunization programs to prevent the spread of contagious disease. *See* *Jacobson v. Massachusetts*, 197 U.S. 11 (1905) (mandatory vaccinations do not violate Constitution); *Prince v. Massachusetts*, 321 U.S. 158, 166-67 (1944) (suggesting that mandatory immunization of children is constitutional); *Sherr v. Northport-East Northport Union Free Sch. Dist.*, 672 F. Supp. 81, 88 (E.D.N.Y. 1987) (claims of religious freedom must give way in face of society's compelling state interest in fighting contagious disease); *Hanzel v. Arter*, 625 F. Supp. 1259, 1262 (S.D. Ohio 1985) (constitutional right to privacy does not encompass right to refuse unwanted vaccinations).

152. In addition to virtually eliminating the possibility that employees will contract HBV on the job, a mandatory vaccination program protects others with whom employees have contact, thereby reducing the spread of the disease. Some commentators have argued that mandatory employee vaccinations are justified in light of the minimal intrusion on employee rights, as compared to the high cost to employers of complying with mandated infection control practices. *See, e.g., Cherrington, supra* note 14, at 124-25 (arguing for such vaccinations). Historically, OSHA has been reluctant to impose duties and conditions upon employees, and instead, when possible, has imposed obligations on employers. *See* *Shapiro & McGarity, supra* note 66, at 11. OSHA usually opts to reduce workplace risks by requiring installation of engineering controls, rather than the use of personal protective devices, because it asserts that workers cannot be relied upon to protect themselves. *See id.*

Act does not specifically protect the affected individuals. For example, when an employee has been exposed to a patient's blood, the BBPs standard requires employers to test that blood, if available, for the presence of HIV and HBV and to disclose the results to the employee.¹⁵³ Disclosure is also required if a patient's infection status is known to the employer.¹⁵⁴ Employers are not required to obtain a source individual's consent to testing and disclosure in these circumstances unless state law mandates it.¹⁵⁵ Because an employee can determine if she has contracted HIV from a source individual only by being tested herself, learning the serostatus of this individual has little value.¹⁵⁶ Moreover, the CDC recommends that chemoprophylaxis to reduce the likelihood of HIV infection after occupational exposure to blood be initiated one to two hours postexposure.¹⁵⁷ Delaying postexposure chemoprophylaxis until the results of a source individual's HIV test can be obtained is therefore medically contraindicated.

OSHA's TB Standard also reflects the agency's bias toward resolving multi-party conflicts by opting for risk reduction methods that favor the rights and interests of employers and employees. For example, employers' obligation to implement risk reduction measures is conditioned upon whether individuals with suspected or infectious TB are permitted to enter a facility.¹⁵⁸ If they are not, employers are spared from the costliest aspects of the standard, which require the installation of engineering controls and

153. See 29 C.F.R. §§ 1910.1030(f)(3)(ii)(A), 1910.1030(f)(3)(ii)(C) (1996).

154. See 29 C.F.R. §§ 1910.1030(f)(3)(ii)(B), 1910.1030(f)(3)(ii)(C) (1996).

155. See 29 C.F.R. § 1910.1030(f)(3)(ii)(A) (1996). Some states prohibit involuntary HIV testing and disclosure under these circumstances. See, e.g., CAL. HEALTH & SAFETY CODE § 120990 (West 1996); DEL. CODE ANN. tit. 16, § 1202 (1995); FLA. STAT. ANN. § 381.004 (West 1993); 410 ILL. COMP. STAT. 307/4 (West 1993); MASS. GEN. LAWS ch. 111, § 70F (1995); N.Y. PUB. HEALTH LAW § 2781 (McKinney 1993). Others permit it. See, e.g., TEX. HEALTH & SAFETY CODE ANN. § 81.102 (West 1992). The Ryan White Comprehensive AIDS Resources Emergency (CARE) Act, which also regulates occupational exposure of emergency response employees to infectious disease, similarly defers to state law on informed consent and the confidentiality of patient information. 42 U.S.C. §§ 300ff-81-300ff-90 (1994). See also Implementation of Provisions of the Ryan White Comprehensive AIDS Resources Emergency Act Regarding Emergency Response Employees, 59 Fed. Reg. 13,418 (1994).

156. An HCW's average risk of HIV infection from percutaneous exposure to a patient's HIV-infected blood is only 0.3%. See Centers for Disease Control and Prevention, *Provisional Public Health Service Recommendations For Chemoprophylaxis After Occupational Exposure to HIV*, 45 MORBIDITY & MORTALITY WKLY. REP. 468, 469 (1996) [hereinafter Centers for Disease Control and Prevention, *Provisional Public Health Service Recommendations*]. Therefore, even if testing of the source individual reveals HIV infection, there is about a 99.7% chance that the HCW was not infected. Additionally, exposed employees can take little consolation from a source individual's HIV-negative test, because infection may have occurred too recently to be detected on an HIV-antibody test.

157. See *id.* at 470.

158. See *supra* notes 105-06.

supplying respiratory protection to employees.¹⁵⁹ While this approach accomplishes the goals of protecting employee health and minimizing costs to employers, it creates a strong financial incentive for employers to deny services to individuals with suspected or confirmed infectious TB to avoid the most expensive components of the standard. Indeed, an unintended consequence of OSHA's imposition of fewer obligations on institutions that exclude and deny services to people with TB may be to encourage employers to violate the Americans With Disabilities Act by simply barring individuals with TB, even though reasonable and affordable modifications could eliminate the risk to employees.¹⁶⁰

OSHA's definition of a suspected case of infectious TB and its approved criteria for identifying these individuals also reflect a bias in favor of the interests of employees and employers. The TB Standard permits employers to identify suspected cases by observing individuals who seek entry to a facility for symptoms, such as sneezing and coughing, and obtaining a medical history.¹⁶¹ If an intake worker suspects infectious TB, the individual may be denied services and excluded from the workplace.¹⁶² Again, while OSHA's definition of a suspected case and its identification criteria may accomplish the goal of protecting employees at the lowest cost to employers, this approach is likely to lead to the denial of services to many individuals who suffer from respiratory diseases other than TB, particularly at homeless shelters and drug treatment facilities.¹⁶³ Indeed, several experts on homelessness have predicted that these criteria could result in the exclusion of nearly all homeless persons from shelters during the winter months when

159. See *supra* notes 106-18 and accompanying text.

160. Title II of the Americans with Disabilities Act requires public services to make reasonable modifications of practices if necessary to enable disabled persons to access offered services. See 42 U.S.C. §§ 12131(2), 12132 (1994). Title III of the Americans with Disabilities Act imposes this obligation upon public accommodations operated by private entities, such as homeless shelters, drug treatment centers, and other social service center establishments. See 42 U.S.C. § 12182(a), 12182(b)(2)(A) (1994).

161. See *supra* notes 110-11. The CDC recommends that homeless shelters, and other high risk facilities, use chest radiography (and possibly a sputum smear and culture) to identify suspected cases of infectious TB. See Centers for Disease Control, *Screening for Tuberculosis and Tuberculosis Infection in High-Risk Populations*, 44 MORBIDITY & MORTALITY WKLY. REP. 19, 29, No. RR-11 (1995).

162. See *supra* notes 112-13.

163. Additionally, several experts have questioned whether these criteria will adequately protect workers in homeless shelters and drug treatment centers because individuals seeking admission may be unable to answer accurately inquiries about their medical history or learn to provide answers that allow them to be admitted. See Occupational Exposure to Tuberculosis, 62 Fed. Reg. 54,160, 54,228 (1997) (to be codified at 29 C.F.R. § 1910) (proposed Oct. 17, 1997). To gather more information on the potential effects of the TB Standard on homeless shelters, OSHA scheduled special sessions dedicated to this subject during public hearings. See *id.*

respiratory infections among this population are rampant.¹⁶⁴

C. The Act's Significant Risk Requirement

The development of rational and just workplace contagion regulations requires the authority to impose infection controls when any of the quantitative or qualitative risks to the health or civil rights of affected parties, individually or in combination, are unacceptable. For example, the rationale underlying the CDC's concept of universal precautions ("UPs"), under which HCWs treat all patients as if they are infected with HIV, is their furtherance of a multiplicity of rights and interests and their reduction of a combination of unacceptable risks, some of which are quantifiable and some of which are not. Specifically, in addition to reducing the risk that HCWs will contract HIV from the relatively few patients they treat who are HIV-positive, and who therefore present a significant risk, UPs reduce the risk of HCW-to-patient and patient-to-patient transmission. Second, by substantially reducing HCWs' incentive to know which patients are infected with HIV and which are not, UPs reduce the risk that patients' privacy rights will be infringed upon by involuntary testing for HIV.¹⁶⁵ Finally, UPs reduce the risk that PWIDs and members of groups disproportionately infected with HIV, such as gay men and IV drug users, will be denied treatment by HCWs.

The requirement that UPs be employed is not premised on the existence of statistically significant risk that every HCW who comes in contact with a patient's body fluid will actually be exposed to or become infected with HIV. Indeed, in light of the low rates of infection with bloodborne pathogens within the population as a whole¹⁶⁶ and the unique conditions necessary for transmission, HCWs do *not* face a statistically significant risk of infection with HIV following occupational exposure to patients' body fluids. Thus, it would be very difficult, if not impossible, to justify the CDC's policy of UPs on the narrow basis of a quantitative risk to HCWs.

164. *See id.* (comments on proposed TB Standard of Wayne Anderson of the National Health Care for the Homeless Council and Major Dalberg of the Salvation Army).

165. There are numerous reported cases involving claims of involuntary HIV testing by health care providers and facilities. *See, e.g.*, *Atakpa v. Perimeter Ob-Gyn Assocs.*, 912 F. Supp. 1566 (N.D. Ga. 1994); *Doe v. Alexian Bros. Med. Ctr.*, 1996 WL 210074 (N.D. Ill. Apr. 25, 1996); *Doe v. Ohio State Univ. Hosps. & Clinics*, 663 N.E.2d 1369 (Ohio Ct. App. 1995); *Doe v. D.C. Comm'n on Human Rights*, 624 A.2d 440 (D.C. 1993); *Holmquist v. Hanson*, 1992 WL 196213 (Minn. App. Ct. Aug. 18, 1992); *Gavaan v. Woodridge, C.A. No. 95-2521C* (Mass. Super. Ct., Suffolk Cty., July 1, 1995); *Doe v. Dyer-Goode*, 566 A.2d 889 (Pa. Super. Ct. 1989).

166. *See, e.g.*, Centers for Disease Control and Prevention, *Recommended Infection-Control Practices for Dentistry*, *supra* note 72, at 2 (possibility of transmitting bloodborne pathogens considered to be small).

In contrast, OSHA's authority to impose infection controls is strictly conditioned upon proof by substantial evidence that a workplace presents a statistically significant risk to the health of workers.¹⁶⁷ Risks to other parties, and any qualitative benefits that might result from a change in workplace practices, are irrelevant. While OSHA's risk assessments need not be scientifically certain,¹⁶⁸ courts have invalidated standards that are not supported by quantitative evidence sufficient to establish that a hazard poses a serious risk to workers' health.¹⁶⁹

The Act's one-dimensional and excessively quantitative significant risk requirement disables OSHA from justifying contagion standards on the basis of a number of risks created by a PWID's presence in the workplace. This generates several adverse consequences. First, because OSHA must justify infection control regulations on the basis of risk to workers alone, the agency must resort to questionable quantitative techniques that overestimate workers' risk of occupational infection and infection-related deaths. These exaggerated risk assessments, in turn, can feed workers' irrational fears of occupational infection and lead to unauthorized infection control measures, such as denying treatment to PWIDs and perceived PWIDs.¹⁷⁰

In devising its bloodborne pathogens standard, for example, OSHA generally estimated workers' risk of exposure to BBPs without regard to whether they already used personal protective equipment in accordance with existing infection control guidelines.¹⁷¹ This resulted in overestimates of the

167. See *Industrial Union Dep't v. American Petroleum Inst.*, 448 U.S. 607 (1980).

168. See *id.* at 656.

169. See, e.g., *id.* (invalidating standard on benzene because OSHA failed to establish that workers faced significant risk from existing levels of exposure); *Texas Indep. Ginners Ass'n v. Marshall*, 630 F.2d 398, 406 (5th Cir. 1980) (invalidating OSHA's cotton dust standard because significant risk not established); *AFL-CIO v. OSHA*, 965 F.2d 962 (11th Cir. 1992) (invalidating OSHA's setting of permissible exposure limits for 428 toxic substances because significant risk not established for each substance); *UAW v. Pendergrass*, 878 F.2d 389 (D.C. Cir. 1989) (ordering OSHA to reconsider its standard for workplace exposure to formaldehyde because underestimated risk); *Building & Constr. Trades Dep't v. Brock*, 838 F.2d 1258 (D.C. Cir. 1988) (invalidating ban on spraying asbestos because significant risk not proven); *Public Citizen Health Research Group v. Tyson*, 796 F.2d 1479 (D.C. Cir. 1986) (rejecting OSHA's determination that lack of significant risk justified its decision not to set short-term limit, in addition to long-term limit, for exposure to ethylene oxide).

170. For a discussion of the importance of accurate and effective communication about the risk of infectious disease to avoid or minimize excessive fear among laypersons, see Karen Glanz & Haiou Yang, *Communicating About Risk of Infectious Diseases*, 275 JAMA 253 (1996).

171. To calculate the number of cases of HBV infection, clinical illness, and HBV-related deaths among HCWs that would be prevented by its BBPs standard, OSHA began by estimating that 4.9 million HCWs held jobs that placed them at risk for occupational exposure to HBV. See *Occupational Exposure to Bloodborne Pathogens*, 56 Fed. Reg. 64,004, 64,026 (1991) (codified at 29 C.F.R. § 1910.1030). From this figure, OSHA subtracted the 3.0 to 3.4 million HCWs who would not benefit from the standard because they had been vaccinated for HBV or were immune due to prior infection.

reduction in health care worker illnesses and deaths that would result from the standard. As OSHA's own data revealed, the vast majority of vulnerable workers were already using infection control techniques that virtually eliminated their risk of occupational exposure to BBPs.¹⁷² In addition, by calculating occupational risk for BBPs without considering the impact of existing guidelines, OSHA overestimated the risk faced by employees, primarily health care workers, who were already regulated. It thereby failed to establish the *Industrial Union Department v. American Petroleum Institute* decision's requirement that its new standard was necessary to eliminate a significant risk among these workers.¹⁷³

OSHA also exaggerated non-HCWs' risk of occupational exposure to BBPs. For example, calculations of the risk to non-HCWs (such as lifeguards) of occupational infection with HBV are based on extrapolations from epidemiological data on HCWs.¹⁷⁴ From these, OSHA concluded that both HCWs and non-HCWs faced equal levels of risk.¹⁷⁵ While it is true, as OSHA assumed, that some risk of infection with a BBP arises from any contact with a body fluid, equating the level of risk faced by these two groups disregards the far greater likelihood that HCWs will have contact with body fluids and that the fluids will actually contain an infectious microbe.¹⁷⁶

See id. This left a population of 2.1 to 2.5 million health care workers whom OSHA deemed at-risk for HBV infection. *See id.* OSHA then used this estimate of the at-risk population to calculate that its standard would result in two fewer deaths, 80 to 108 fewer cases of HBV infection, and 20 to 28 fewer cases of clinical illness per 1,000 workers exposed over a working lifetime. *See id.* at 64,037.

172. OSHA's data on rates of compliance with existing voluntary guidelines for preventing occupational transmission of BBPs reveal that more than 75% of dentists and 97% of dental hygienists wore gloves with all patients. *See id.* at 64,060. OSHA also found that 79% and 61% of all surveyed hospitals already sought to test "source individuals" for hepatitis and HIV, respectively. *See id.* at 64,061. OSHA found that 92% of hospitals were complying with guidelines for the disposal of infectious wastes. *See id.* The lowest rates of compliance were for training and educating workers on prevention. *See id.*

173. In *American Petroleum*, the Supreme Court invalidated a new OSHA standard on benzene, a suspected carcinogen, because the agency had not established that compliance with the national consensus standard was inadequate to protect workers from a significant risk of occupational exposure to the chemical, and therefore that its standard was necessary. 448 U.S. 607 (1980). When OSHA seeks to establish a new standard for a workplace hazard that is already regulated, the agency must "find that an existing national consensus standard is not adequate to protect workers from a continuing and significant risk of harm." *Id.* at 644.

174. *See Occupational Exposure to Bloodborne Pathogens*, 56 Fed. Reg. at 64,023 (HCWs are the only occupational group for which data on the risk of HBV infection in an occupational setting are available to OSHA). OSHA's estimates of the risk to non-HCWs of occupational infection with TB are also based on extrapolations from data on HCWs. *See Occupational Exposure to Tuberculosis*, 62 Fed. Reg. 54,160, 54,190 (1997) (to be codified at 29 C.F.R. § 1910) (proposed Oct. 17, 1997).

175. *See Occupational Exposure to Bloodborne Pathogens*, 56 Fed. Reg. at 64,025: "OSHA will assume that the risk to non-healthcare workers with occupational exposure is similar to the risk of healthcare workers with equivalent occupational exposure."

176. Compared to non-HCWs, HCWs are exposed to greater amounts of bodily fluids with greater

Additionally, this conclusion conflicts with the surveillance data showing no documented cases of occupational transmission of HIV or HBV among several categories of employees newly subjected to infection control regulations by OSHA's BBPs standard.¹⁷⁷

OSHA also appears to have exaggerated workers' risk of death from job-related TB, and the number of annual worker deaths that its TB Standard will prevent. To arrive at these calculations, the agency estimated the risk of infection among covered employees.¹⁷⁸ From these data, the agency estimated the excess risk of occupational infection with TB.¹⁷⁹ To calculate the excess risk of death among occupationally infected workers, OSHA estimated the number of infected workers who would progress to active disease¹⁸⁰ and then used national TB fatality statistics to estimate workers' risk of death from TB and the number who die from the disease annually.¹⁸¹ This methodology led OSHA to estimate that the risk of death from TB is from 0.2 to 3 deaths per 1,000 exposed hospital workers; 3.5 per 1,000 workers in long-term care facilities; 2 per 1,000 workers in home health care; and .5 per 1,000 in home care;¹⁸² and to conclude that the TB Standard will prevent 115 to 136 annual deaths among workers from job-related

frequency, and the body fluids they encounter from people who are ill are more likely to contain HBV or HIV than the body fluids of the general population. Additionally, OSHA's conclusion that HCWs and non-HCWs face an equal risk of occupational exposure to BBPs seems to run afoul of *AFL-CIO v. OSHA*, 965 F.2d 962, 979 (11th Cir. 1992), which held that OSHA may not base a finding of significant risk at a lower level of exposure on evidence of health impairments at higher levels of exposure.

177. As of July 1, 1997, there have been no documented cases of occupational infection with HIV among dental workers, embalmers, paramedics, or surgeons. *See* Centers for Disease Control and Prevention, *supra* note 6, at 15 tbl. 11 (reporting occupational transmission of HIV). To date, the Centers for Disease Control has not documented any cases of occupational infection with HBV among employees of drug rehabilitation clinics, schools, or funeral homes or among lifeguards. The only categories of employee in which there are documented cases of job-related HBV are health care workers and public safety workers. Telephone Interview with Dr. Pat Colman, Medical Epidemiologist, Hepatitis Branch, Centers for Disease Control and Prevention (Dec. 5, 1996).

178. Occupational Exposure to Tuberculosis, 62 Fed. Reg. at 54,199. This estimate was based on three studies of TB infection rates among hospital workers in Washington State, North Carolina, and a hospital in Miami. These studies were used because they reflected infection rates among HCWs in geographical areas with low, moderate, and high rates of TB infection, and because national data on occupational TB infection rates among HCWs have not been compiled. *See id.* at 54,193.

179. Excess risk is the amount of the risk of TB infection to employees over and above that facing the general public. OSHA estimated hospital workers' excess risk of occupational infection with TB to range from .68 cases per 1,000 workers for workplaces located in areas with a low prevalence of TB to 11.8 cases per 1,000 workers for workplaces located in high-prevalence areas. *See id.* at 54,207-8.

180. To estimate this figure, OSHA assumed that persons infected with TB have a 10% lifetime risk of progressing to active TB. *See id.* at 54,207.

181. National TB fatality statistics lead OSHA to estimate that 77.85 of every 1,000 workers who progress to active disease will die from the disease. *See id.* at 54,206.

182. *See id.* at 54,213. OSHA estimates that its standard will prevent two to three deaths per year among homeless shelter employees. *See id.* at 54,228.

tuberculosis.¹⁸³

However, OSHA's reliance upon national TB fatality statistics as the basis for calculating the excess risk of death and expected annual fatalities among infected employees is highly questionable. Drug susceptible TB is nearly 100% curable in patients who are immunocompetent and complete the treatment regimen.¹⁸⁴ Fatalities from both drug-susceptible and drug-resistant TB largely occur among individuals who do not receive or complete treatment, are immunosuppressed (primarily due to HIV infection),¹⁸⁵ or are otherwise in poor health.¹⁸⁶ Because the vast majority of HCWs and other employees covered by the TB Standard do not belong to the groups for whom treatments for TB fail, OSHA's estimates of the excess risk of death and preventable deaths are necessarily overstated.

Finally, in addition to encouraging OSHA to produce exaggerated risk assessments that can foster discrimination, the Act's significant risk requirement forces OSHA to spend years and precious resources, which could be devoted to enforcement, and on calculating the statistical risk that every worker subject to the standard faces from exposure to workplace contagion.¹⁸⁷ Indeed, the Act's significant risk requirement is particularly burdensome in the context of regulating contagion, because many highly unpredictable and nonquantifiable variables affect the likelihood of microbial transmission between human beings.¹⁸⁸

D. Preemption of State Public Health Regulation

Currently, twenty-one states and two territories have been granted exclusive authority to regulate occupational safety and health issues under OSHA-approved plans.¹⁸⁹ In the remaining jurisdictions, the Supreme Court

183. See *id.* at 54,219. The agency also estimates that the TB Standard will prevent another 23 to 54 annual deaths among the families, friends, and other contacts of occupationally infected workers. See *id.*

184. See Gostin, *supra* note 18, at 26-29.

185. In many high prevalence areas more than 50% of active TB cases occur among people infected with HIV. Centers for Disease Control and Prevention, *Reported Tuberculosis in the U.S., 1996*, at 1, 27 (1996) (reporting that in District of Columbia, Florida, and New York City, more than 50% of active TB cases were in HIV-positive persons).

186. See Gostin, *supra* note 18, at 26-29.

187. It took OSHA almost four years to complete quantitative risk assessments for its TB Standard. See discussion *infra* at Part IV.C.

188. See, e.g., Gostin, *supra* note 18 (describing variables affecting TB infection).

189. The Act states:

Any State which, at any time, desires to assume responsibility for development and enforcement therein of occupational safety and health standards relating to any occupational safety or health issue with respect to which a Federal standard has been promulgated . . . shall submit a State plan for the development of such standards and their enforcement.

held in *Gade v. National Solid Wastes Management Ass'n*¹⁹⁰ that the Act preempts state laws and regulations establishing an occupational safety and health standard on an issue for which OSHA has promulgated a standard.¹⁹¹ A state regulation in these jurisdictions that has “dual impact” (both an occupational and a nonoccupational purpose) is also preempted if it “directly, substantially, and specifically” regulates workplace safety.¹⁹² Thus, the only way a state regulation that affects worker safety can avoid preemption under *Gade* is if it is “generally applicable”—that is, it regulates the conduct of workers and non-workers alike as members of the general public—and if it does not conflict with an OSHA standard.¹⁹³

As a consequence of the Supreme Court’s decision in *Gade*, OSHA emerges as the preeminent regulator of the risk of contagion in public and private institutions in states that do not have approved plans. In these jurisdictions, state and local health departments are divested of the authority to issue or enforce infection control regulations for any microbe, such as HIV or TB, for which OSHA has set standards.¹⁹⁴ OSHA contagion standards also supplant CDC recommendations adopted by these states.¹⁹⁵ This is true even

29 U.S.C. § 667(b) (1994). To obtain OSHA’s approval, the state must adopt standards that will be or are at least as protective of worker health as those adopted by OSHA. *See id.* § 667(c)(2). Alaska, Arizona, California, Hawaii, Indiana, Iowa, Kentucky, Maryland, Michigan, Minnesota, Nevada, New Mexico, North Carolina, Oregon, Puerto Rico, South Carolina, Tennessee, Utah, Vermont, Virginia, Washington, Wyoming, and the U.S. Virgin Islands have OSHA approved plans. 29 C.F.R. pt. 1952 (1996). In New York and Connecticut, state-approved plans cover only public employees, while private employers remain subject to OSHA standards. *See* 29 C.F.R. § 1956.50 (1996); 29 C.F.R. § 1956.40 (1996).

190. 505 U.S. 88 (1992).

191. A plurality of the court comprising Chief Justice Rehnquist, Justice O’Connor, Justice White, and Justice Scalia decided that the Illinois statute at issue in the case was impliedly preempted by the Act. *See id.* at 102. Justice Kennedy reached the same conclusion about the preemptive effect of the Act on the Illinois statute, but by means of an express preemption analysis. *See id.* at 109.

192. *Id.* at 107. The Illinois statute at issue in *Gade* established licensing and training requirements for waste equipment operators and workers at certain facilities. *See id.* at 93. The purpose of the law was to protect workers and the general public from exposure to hazardous wastes. *See id.* at 91. The court expressly rejected the state’s argument that the law should be spared OSHA preemption because it fell within the state’s traditional powers to regulate the practice of professions within its boundaries and to protect the public health and safety. *See id.* at 108.

193. *See id.* at 107.

194. Some states have enacted statutes and regulations to reduce the transmission of contagion in high-risk institutional settings covered by OSHA standards, such as health care facilities, homeless shelters, and prisons. *See, e.g.,* N.J. ADMIN. CODE tit. 8, § 36-16.4 (Supp. 1997) (infection control regulations for assisted living residences); N.J. ADMIN. CODE tit. 8, § 39-19.4 (Supp. 1996) (infection control standard for long-term care facilities); N.J. ADMIN. CODE tit. 5, § 15-4.15 (1995) (infection control standard for homeless shelters). Under *Gade*, OSHA’s contagion standards preempt these regulations in states that do not have approved plans.

195. *See American Dental Ass’n v. Martin*, 984 F.2d 823, 936 (7th Cir. 1993) (Coffey, J., concurring in part, dissenting in part) (OSHA BBPs standard preempts CDC guidelines adopted by states).

if the preempted state laws are more protective of workers and the public than the OSHA contagion standard.¹⁹⁶

While *Gade's* transfer of authority for developing institutional infection controls from state health departments to OSHA in states without approved plans¹⁹⁷ achieves the desirable goal of not subjecting employers and employees to duplicative regulations, it raises several very serious concerns. First, state and local public health departments' experience and expertise in contagion control is vastly superior to OSHA's.¹⁹⁸ Second, the state health departments' broad mission to protect the public health generally makes them better suited to regulating contagion than is OSHA with its one-dimensional, worker-oriented perspective. Third, unlike OSHA, state health officials are accustomed to considering the impact of infection control measures on the civil rights and liberties of PWIDs and perceived PWIDs and balancing the interests of all affected parties.¹⁹⁹ Finally, because state health departments routinely collect and analyze surveillance data on contagious disease, they are better able than OSHA to understand the problems of contagion in their states and to tailor regulations to their population's needs.

Gade's extension of OSHA preemption to dual-impact state laws, unless they are of "laws of general applicability,"²⁰⁰ is even more problematic.²⁰¹ As others have noted, the meaning of this category is far from clear.²⁰² Thus,

196. For example, some states include noncompliance with infection control regulations as grounds for professional medical misconduct. *See, e.g.*, N.Y. PUB. HEALTH LAW § 230-a (McKinney Supp. 1997). OSHA's BBPs standard arguably preempts these laws because they regulate only the conduct of health care employees and therefore are not "generally applicable."

197. In jurisdictions that do not have approved plans, the Supreme Court determined that the Act must preempt state laws and regulations that establish an occupational safety and health standard on an issue for which OSHA has promulgated a standard, because "Congress intended to subject employers and employees to only one set of regulations, be it federal or state[.] . ." *Gade*, 505 U.S. at 99.

198. *See supra* note 9. For a historical analysis of states' early efforts to protect the public health, *see* Wendy E. Parmet, *Health Care and the Constitution: Public Health and the Role of the State in the Framing Era*, 20 HASTINGS CONST. L.Q. 267 (1992).

199. *See* Scott Burris, *Public Health, "AIDS Exceptionalism" and the Law*, 27 J. MARSHALL L. REV. 251, 259-60 (1994) (public health agencies negotiated with groups representing people with AIDS to devise policies that would protect both rights and serve the public health). Additionally, state and local health departments are subject to Title II of the Americans with Disabilities Act, which prohibits discrimination against PWIDs and perceived PWIDs. *See* Americans with Disabilities Act of 1990, 42 U.S.C. §§ 12131-12165 (1994); 28 C.F.R. § 35.104 (1996).

200. *Gade*, 505 U.S. at 107.

201. Justice O'Connor, who authored the plurality opinion, cites traffic and fire safety laws as examples of state laws of general applicability that would not be preempted by OSHA. *See id.*

202. For a critique of the Supreme Court's analysis in *Gade*, *see*, Jane M. Lyons, *Gade v. National Solid Wastes Management Association: Reality Check on the Preemption Doctrine*, 10 J. CONTEMP. HEALTH L. & POL'Y 563, 577-78 (1993) ("generally applicable" standard difficult to apply because all workers are members of general public and Illinois statute at issue in *Gade* seemed to satisfy standard, yet court mysteriously held to the contrary).

Gade will at best generate considerable confusion about whether OSHA contagion standards supplant state laws on a wide range of issues, such as the testing of employees for infection, the confidentiality of test results, and the rights of employees and non-employees with contagious diseases.²⁰³ If, in fact, courts determine that laws and regulations regarding these matters are not generally applicable and therefore are preempted, the Secretary of Labor and OSHA administrators will irrationally be vested with the ultimate authority to set national standards on a wide range of highly sensitive and controversial civil rights and liberties issues in which they lack expertise and experience, and about which the Act is utterly silent.

IV. PRACTICAL AND PROCEDURAL CONSTRAINTS ON OSHA'S REGULATION OF CONTAGION

A. OSHA's Culture and the Regulatory Environment

Neither is the Occupational Safety and Health Administration and the political environment in which it operates conducive to the production of rational and equitable workplace contagion standards. The notice and comment provisions of the Act presume that OSHA has the internal expertise necessary to develop standards and that input from interested parties will be needed only to fine-tune them.²⁰⁴ However, because OSHA in fact lacks expertise in infectious disease, epidemiology, and contagion control, it is overly dependent on outsiders for the basic information needed to develop proposed contagion standards.²⁰⁵

Moreover, OSHA has historically regulated things, not people. It has no

203. For example, the provision in OSHA's BBPs standard that requires the disclosure of a source individual's HIV status, if known to the employer, to an employee following an exposure incident seems to preempt state HIV confidentiality laws that bar automatic disclosure under these circumstances. *See* 29 C.F.R. § 1910.1030(f)(3) (1996).

204. Unless an advisory committee is appointed, the Act contemplates that proposed rules will be developed exclusively by OSHA administrators. *See* 29 U.S.C. § 655(b) (1994). After a proposed rule is published, the Act requires only a thirty-day period for receiving written comments or requests for hearings from outsiders. *See id.* § 655(b)(2). Sixty days later, OSHA must promulgate the final rule or issue a determination that a rule should not be issued. *See id.* § 655(b)(3). Generally, rulemaking processes, such as those contained in the Act, were designed to place authority for developing regulations largely in the hands of administrators who were presumed to be experts in the field. *See* Thomas O. McGarity, *The Internal Structure of EPA Rulemaking*, 54 LAW & CONTEMP. PROBS. 57, 58 (1991) (informal rulemaking merely provides public with notice of terms of agency proposals and opportunity to comment).

205. The fact that OSHA needed to hold stakeholder meetings with interested groups to obtain their reactions to a draft proposed rule on TB after working on it for three years, and before releasing it publicly, strongly suggests that the agency lacked the internal expertise contemplated by the standard setting provisions of the Act.

expertise in or experience with assessing the impact of standards on the public health as a whole or on the rights and liberties of parties other than employers and employees. Because the work group responsible for developing OSHA's contagion standards does not include experts on civil rights or public health, these perspectives are relegated to a subordinate position.²⁰⁶ Indeed, OSHA's failure to request comment on any of these subjects at the outset of its rulemaking for either BBPs or TB suggests that it fails altogether to appreciate the centrality of these concerns to the development of workplace contagion regulations that are rational, just, and effective.²⁰⁷

Finally, the political context in which OSHA operates severely constrains its ability to promulgate contagion regulations expeditiously and to enforce standards effectively once they are issued.²⁰⁸ Nearly every OSHA standard has been challenged and subjected to judicial review, which delays enforcement.²⁰⁹ The frequency of judicial review has caused the agency to adopt an adversarial rather than a collaborative posture toward rulemaking in general²¹⁰ and toward rulemaking on workplace contagion in particular.²¹¹

206. The OSHA work group responsible for developing the BBPs and TB standards included a lawyer, two economists, a virologist, an industrial hygienist, a dentist, a doctor, and a nurse. See Thurber Interview, *supra* note 67. For a general description of the role of the work group in administrative rulemaking, see McGarity, *supra* note 204, at 73-74 (function of work group is to bring together professionals with differing perspectives to debate merits of various approaches to regulatory problem).

207. None of the 14 subjects on which OSHA sought public comment at the outset of its rulemaking on BBPs concerned the civil rights or public health implications of its standard. See Occupational Exposure to Hepatitis B Virus and Human Immunodeficiency Virus, 52 Fed. Reg. 45,438, 45,440-41 (1987). Similarly, none of the more than 75 subjects on which OSHA sought public comment on its TB Standard concerned civil rights or public health issues. See Occupational Exposure to Tuberculosis, 62 Fed. Reg. 54,160, 54,161-65 (1997) (to be codified at 29 C.F.R. § 1910 (proposed Oct. 17, 1997)).

208. For a general discussion of the effect of political context on agency behavior, see JAMES Q. WILSON, *BUREAUCRACY: WHAT GOVERNMENT AGENCIES DO AND WHY THEY DO IT* 235-94 (1989) (analyzing impact of Congress, president, and courts upon administrative deliberations and choices).

209. Judicial review is typically sought by employers, who complain that a standard is too stringent, or by unions, which complain that it is not stringent enough. In keeping with this tradition, OSHA's BBPs standard was challenged by groups representing dentists and employers of health care workers who worked in private homes and nursing homes. See *American Dental Ass'n v. Martin*, 984 F.2d 823 (7th Cir. 1993).

210. For a general discussion of the impact of judicial review upon OSHA rulemaking, see WILSON, *supra* note 208, at 282-284 (routine judicial review of OSHA standards has led agency to adopt defensive approach that protracts rulemaking process).

211. Congress has provided OSHA with several ways to include people with disparate perspectives on workplace contagion regulations, including representatives of PWIDs, in its deliberative process. The Act authorizes the Secretary of Labor to appoint an advisory committee that may include any persons "who are qualified by knowledge and experience to make a useful contribution" to the standard setting process. 29 U.S.C. § 656(b) (1994). Additionally, the Negotiated Rulemaking Act enables OSHA to convene a committee of up to 25 representatives of affected

This problem is compounded by OSHA's tendency to become the lightning rod during political battles over whether health and safety risks are best reduced by "command-and-control" regulations or by market incentives.²¹² When free marketeers gain the upper hand, OSHA's administrative burdens are often increased, even as its budget is cut.²¹³ Even when the political climate is favorable, OSHA's enforcement budget has always been plainly inadequate to ensure compliance with its contagion standards.²¹⁴ Given this bureaucratic reality, OSHA's capacity to substantially reduce employer noncompliance with infection control regulations is dubious.

B. OSHA's Agenda Setting Process

OSHA's reliance on union petitions to establish its standard-setting priorities for hazardous chemicals has long been criticized.²¹⁵ As commentators have noted, this method of agenda-setting fails to ensure that

interests to develop a proposed rule. See 5 U.S.C. §§ 561-70 (1994). OSHA elected not to utilize either of these options when developing its standards for BBPs and TB.

212. See WILSON, *supra* note 208, at 247 (describing congressional efforts in 1970s and early 1980s to make OSHA more responsive to employers); Richard N.L. Andrews, *Long-Range Planning in Environmental and Health Regulatory Agencies*, 20 *ECOLOGY L.Q.* 515, 568 (1993) ("[I]ike all the regulatory agencies, OSHA's effectiveness, resources, and morale were severely damaged by the policies of the Reagan Administration"); Shapiro & McGarity, *supra* note 66, at 11 (OSHA has been under constant attack by business and its congressional allies for overregulation and by labor and public interest groups, and their congressional allies, for underregulation).

213. OSHA's historic status as a primary target of political conflict between labor and business and their political representatives reached new heights after the Republican takeover of Congress in 1994. For fiscal year 1996, the Republican-led House of Representatives proposed a 15.5% decrease in OSHA's total budget to \$82.6 million, which included a \$47.8 million decrease in federal enforcement funds and a 7.5% cut in aid to state enforcement. See Dean Scott, *House Panel's Job Safety Enforcement Cuts Would Trigger Office Closings, Agency Says*, O.S.H. Rep. (BNA), at 299 (July 19, 1995). During the same period, President Clinton proposed more than a 10% increase in OSHA's total budget to \$346.5 million, which included a nearly \$10.54 million increase in federal enforcement funds and a nearly \$5.3 million increase in funds to aid state enforcement. See *Clinton Proposes 10 Percent Boost for OSHA: Funding for Consultation, Training Increased*, O.S.H. Rep. (BNA), at 1787 (Feb. 8, 1995). For a detailed analysis of recent political attacks on OSHA, see Thomas O. McGarity & Sidney A. Shapiro, *OSHA's Critics and Regulatory Reform*, 31 *WAKE FOREST L. REV.* 587 (1996).

214. It would take OSHA's inspectors eighty years to inspect each regulated job site just once. See *Threat of OSHA Inspection Must be Preserved to Ensure Employee Safety, Union Official Says*, O.S.H. Rep. (BNA), at 1785 (May 29, 1996).

215. See Shapiro & McGarity, *supra* note 66, at 15-16. In response to such criticism, OSHA recently undertook efforts to rationalize its agenda-setting and expedite its standard-setting processes. In August 1994, OSHA established a standards planning committee to determine which workplace hazards ought to receive immediate attention. The committee's report identified occupational asthma, reproductive hazards, asphalt fumes, commercial diving, welding hazards, workplace violence, and motor vehicle accidents as suggested priorities. See *Dear Praises Regulatory Planning Process, Says Results Will Be in Next Regulatory Agenda*, O.S.H. Rep. (BNA) at 431, 432 (Aug. 16, 1995).

OSHA's limited resources will be concentrated on the workplace toxins and dangerous conditions that pose the greatest risk to workers.²¹⁶

OSHA's reliance on union petitions to set its priorities for regulating workplace contagion is even more problematic. First, it virtually guarantees that contagion standards will take effect long after the greatest risk of occupational infection has passed. Since unions do not track outbreaks of contagious diseases, their perception of the seriousness of workers' risk of occupational exposure to infectious microbes is shaped by the mass media and anecdotal experience.²¹⁷ However, rational regulation of contagion requires that risk reduction measures be implemented *before* a new microbe is sufficiently entrenched that it can generate the number of cases in the general population, and in particular the number of occupational cases, needed to capture the media's and hence unions' attention. By then, the optimal time for government intervention to prevent transmission is long gone.

The timing of union petitions for OSHA standards on bloodborne pathogens and TB illustrates this problem. Unions did not petition OSHA to set a standard for HIV until almost five years after the AIDS epidemic began.²¹⁸ Moreover, unions did not petition for a standard for TB until eight years after the United States incidence rate had increased following decades of decline, and one year after it had again been brought under control.²¹⁹

Additionally, OSHA's reliance on unions to set its regulatory priorities over the long term tends to concentrate resources on dramatic but uncommon risks of workplace exposure to infectious disease, while common but undramatic risks remain unregulated.²²⁰ Studies of risk perception demonstrate that the media's tendency to focus on sensational, unusual, and catastrophic risks leads the public to overestimate the occurrence of these

216. See Shapiro & McGarity, *supra* note 66, at 15-16 (reliance on union petitions unlikely to concentrate OSHA resources on greatest risks and dangers to non-unionized employees).

217. The media tend not to cover health risks from disease and other sources until they reach dramatic proportions and affect the white middle class. See Stephen Klaidman, *How Well the Media Report Health Risk*, 119 DAEDALUS 119, 123 (1990).

218. See *supra* note 71.

219. See Centers for Disease Control and Prevention, *Tuberculosis Morbidity—United States, 1994*, 44 MORBIDITY & MORTALITY WKLY. REP. 387, 389 (1995) [hereinafter Centers for Disease Control and Prevention, *Tuberculosis Morbidity—United States*] (reporting 20% increase in annual number of TB cases between 1985 and 1992, and 8.7% decrease in TB cases between 1992 and 1994).

220. It may also be that OSHA's tendency to focus on new, rather than long-standing, risks of contagion is another example of the regulatory state's general tendency, as observed by Professor Cass Sunstein, to gravitate toward control of new risks while ignoring old ones. See Cass R. Sunstein, *Paradoxes of the Regulatory State*, 57 U. CHI. L. REV. 407, 417-19 (1990) (general tendency of regulatory state is careful regulation of new risks and lenient or no regulation of old ones).

hazards.²²¹ As a result, heavily publicized risks (like AIDS and MDR-TB) often become the focus of public concern and demands for strict regulation, while more mundane risks (like HBV and the common strain of TB) are ignored. Given the fact that these older infectious diseases, as well as long-standing risks from dangerous workplace conditions and hazardous chemicals, are responsible for many more cases of work-related illness and death, the reasonableness of such an approach is questionable.

The failure of unions to petition OSHA to regulate HBV until 1986 supports this argument. Despite high rates of occupational infection with HBV among HCWs, unions did not petition OSHA to regulate this bloodborne pathogen until the highly publicized and dramatic AIDS epidemic of the mid-1980s. By that time, however, HBV had infected between fifteen and thirty percent of HCWs nationwide; it was also killing about 200 HCWs annually.²²²

C. OSHA's Standard-Setting Process

The burdensome procedural requirements of the Act, and the bevy of other mandates that govern OSHA's standard setting,²²³ also ensure that the agency's contagion regulations take effect too late to be of maximum benefit. OSHA cannot summarily adopt existing federal or national consensus standards on infection control as enforceable standards without embarking on its formal rulemaking process.²²⁴ To impose a standard quickly, OSHA must issue an emergency temporary standard and then proceed with formal

221. See Paul Slovic, *Beyond Numbers: A Broader Perspective on Risk Perception and Risk Communication*, in ACCEPTABLE EVIDENCE: SCIENCE AND VALUES IN RISK MANAGEMENT 48, 50 (Deborah G. Mayo & Rachelle D. Hollander eds., 1991) (media attention to dramatic and sensational risks exacerbates public's tendency to overestimate the probability of their occurrence).

222. See Centers for Disease Control, *Update on Adult Immunization*, 40 MORBIDITY & MORTALITY WKLY. REP. 1, 6, No. RR-12 (1991) (reporting prevalence of HBV infection among HCWs with frequent exposure to blood). Indeed, health care providers' risk of death from an accidental exposure to HBV is approximately the same as from HIV—approximately 1%. See Lawrence J. Schneiderman & Robert M. Kaplan, *Fear of Dying and HIV Infection vs. Hepatitis B Infection*, 82 AM. J. PUB. HEALTH 584, 584 (1992).

223. For a description of these provisions, see *supra* Part II.B.

224. Initially, OSHA had the authority to promulgate any existing national consensus standard or any established federal standard as an enforceable rule without having to go through its formal rulemaking process. See Occupational Safety and Health Act (OSHA) of 1970, 29 U.S.C. § 655(a) (1994). The purpose of this provision was to allow OSHA to quickly adopt national standards with which industries were already familiar and in agreement. See *Deering Milliken, Inc. v. OSHRC*, 630 F.2d 1094, 1096 (5th Cir. 1980) (describing purpose of § 655(a)). However, this authority expired two years after the Act became effective. While OSHA may issue temporary standards issued by another federal agency, such as the CDC, without following formal rulemaking procedures, it may not use this procedure to circumvent the procedural safeguards of public comment and hearings contained in the Act. See *Dry Color Mfrs.' Ass'n v. Dep't of Labor*, 486 F.2d 98, 104 n.9a (3d Cir. 1973).

rulemaking. As a practical matter, however, the criteria for issuing an emergency temporary standard make this option of limited value in regulating workplace contagion.²²⁵

OSHA's inability to summarily adopt existing CDC or national consensus standards for controlling workplace contagion needlessly delays the implementation of enforceable standards that would offer workers and the public the best protection. However, OSHA exacerbates this problem by regulating the risk of workplace contagion *de novo*, as if no voluntary or mandatory infection control regulations existed. As previously stated, when the agency received union petitions to develop standards for BBPs and TB, a number of voluntary guidelines for reducing workplace exposure to these microbes were already in effect.²²⁶ OSHA's research revealed that compliance with existing guidelines was high in some industries but low in others.²²⁷ However, rather than propose existing CDC guidelines as permanent standards and concentrate enforcement on industries with low compliance rates, OSHA opted to develop entirely new permanent standards for BBPs and TB. This approach delayed the issuance of enforceable regulations and extended the period during which employees and others in non-complying facilities faced an unnecessarily high risk of infection.

Additionally, OSHA's standard-setting process, which takes from four to eight and one-half years to complete,²²⁸ is simply too protracted to enable the agency to materially reduce workers' risk of occupational infection with a contagious disease. It took OSHA three years to develop its proposed rule on BBPs²²⁹ and another two and one-half years to promulgate its final rule.²³⁰

225. Given the existence of numerous regulators that are capable of expeditiously responding to outbreaks of infectious disease, it is unlikely that OSHA could ever meet the high standard for issuing an emergency temporary standard for workplace contagion. See Public Citizen Health Research Group v. Aucter, 702 F.2d 1150, 1152 n.3 (D.C. Cir. 1983) (self-regulation in some industries that reduced workers' exposure to ethylene oxide eliminated need for emergency OSHA standard).

226. See *supra* notes 72, 94 and accompanying text.

227. In gathering data on rates of compliance with existing voluntary guidelines for preventing occupational transmission of BBPs, OSHA found that more than 75% of dentists and 97% of dental hygienists wore gloves with all patients. See Occupational Exposure to Bloodborne Pathogens, 56 Fed. Reg. 64,004, 64,060 (1991) (codified at 29 C.F.R. § 1910.1030). OSHA also found that 79% and 61% of all surveyed hospitals already sought to test "source individuals" for hepatitis and HIV, respectively. See *id.* at 64,061. OSHA found that 92% of hospitals were complying with guidelines for the disposal of infectious wastes. See *id.* The lowest rates of compliance with CDC guidelines were in the training and education workers on prevention. See *id.* OSHA inspections of health care facilities in 1995 revealed widespread non-compliance with CDC and OSHA guidelines on preventing occupational exposure to TB, which resulted in the issuance of a number of citations. *High-Risk Facilities Not Fully Complying with OSHA Tuberculosis Guidance*, STUDY FINDS, O.S.H. Rep. (BNA) at 1569, 1576-77 (Apr. 17, 1996).

228. See Shapiro & McGarity, *supra* note 66, at 13-14.

229. See Occupational Exposure to Bloodborne Pathogens, 54 Fed. Reg. 23,042 (1989) (codified

Judicial review took another year.²³¹ It took OSHA four years to publish its proposed TB Standard, which, in the end, contained only “minor differences” from existing CDC guidelines.²³²

The incompatibility between OSHA’s cumbersome standard-setting process and the objective of reducing the risk of contagion in the workplace leads to several regulatory irrationalities and has several unintended consequences. First, by the time an OSHA contagion standard goes into effect four to five years after the standard-setting process begins, it is highly likely that the risk faced by employees has already decreased significantly. This is primarily because of the efforts of the CDC and public health officials, who can respond much more quickly than OSHA to outbreaks of workplace contagion.²³³

Indeed, by the time OSHA’s final TB standard takes effect it may very well be superfluous. Traditional TB control strategies have largely succeeded in reducing the incidence of TB generally during the past few years, thereby reducing the occupational risk faced by employees.²³⁴ Indeed, the CDC reported that new cases of TB in 1996 were at the lowest number and rate since national reporting began in 1953.²³⁵ Additionally, the outbreaks of MDR-TB among workers in hospitals and prisons that prompted OSHA to undertake TB regulation in 1993²³⁶ have not recurred since the early 1990s, thanks to the expeditious response of the CDC and state and local public health officials.²³⁷ It is highly questionable, therefore, that the additional risk

at 29 C.F.R. § 1910) (proposed May 30, 1989).

230. The rule became effective on March 6, 1992. *See* Occupational Exposure to Bloodborne Pathogens, 56 Fed. Reg. at 64,004.

231. *See* American Dental Ass’n v. Martin, 984 F.2d 823 (7th Cir. 1993) (upholding OSHA’s rule on bloodborne pathogens, except as applied to sites not controlled by employers subject to rule).

232. *See* Occupational Exposure to Tuberculosis, 62 Fed. Reg. 54,160, 54,170-71 (1997) (to be codified at 29 C.F.R. § 1910) (proposed on Oct. 17, 1997) (“[T]here are some minor differences between OSHA’s proposed standard and CDC’s guidelines that go beyond the obvious enforcement distinction between a guideline and a standard.”).

233. *See* discussion of CDC process *supra* Part II.A.

234. *See* Centers for Disease Control and Prevention, *Tuberculosis Morbidity—United States*, *supra* note 219, at 389 (decrease in TB cases between 1992 and 1994 reflects federal government’s assistance of state and local TB control efforts, including directly observed therapy, tuberculin screening and preventive therapy for persons at high risk, and support programs to prevent TB among HIV-infected persons). *See also* David Firestone, *A Portrait of the City, Painted by the Numbers*, N.Y. TIMES, Sept. 22, 1996, at 43 (reporting 23% decrease in new TB cases in New York City between 1995 and 1996).

235. *See* Centers for Disease Control, *Tuberculosis Morbidity—United States: 1996*, 46 MORBIDITY & MORTALITY WKLY. REP. 695 (1997).

236. Outbreaks of MDR-TB among employees occurred between 1990 and 1992 in hospitals and correctional facilities. *See* Centers for Disease Control, *National Action Plan*, *supra* note 18, at 7.

237. In response to the institutional outbreaks of MDR-TB, the CDC held a national meeting on MDR-TB in January 1992. In April 1992, a CDC task force released a draft of a national plan to

reduction that OSHA's TB standard will achieve will justify the time and resources OSHA has expended.²³⁸ Indeed, OSHA's TB standard lends credence to Justice Stephen Breyer's thesis that the modern regulatory state irrationally expends excessive resources to clean up the "last 10%" of some hazards while others remain wholly unregulated.²³⁹

Finally, OSHA's entry into workplace contagion regulation may paradoxically increase the risk to workers' health from hazards within the agency's traditional regulatory domain—toxic substances and dangerous physical conditions. OSHA is capable of working on only a few standards at a time because each one consumes a substantial portion of its total resources.²⁴⁰ While the agency lumbers through the process of developing permanent standards for a contagious disease (which, if prevalent, will already be heavily regulated by the CDC and state health departments), it diverts its resources from any of the hundreds of known and suspected carcinogens and other nonhuman workplace hazards that remain unregulated.²⁴¹

combat the spread of MDR-TB generally and in institutional settings in particular. The final plan was issued in June 1992. See Centers for Disease Control, *Meeting the Challenge of Multidrug-Resistant Tuberculosis: Summary of a Conference*, 41 MORBIDITY & MORTALITY WKLY. REP. 49, 51, No. RR-11 (1992). This entire process took roughly six months.

238. OSHA concedes that the risk of occupational transmission of TB has significantly declined since it began work on the standard due to the efforts of the CDC and state public health departments. See Occupational Exposure to Tuberculosis, 62 Fed. Reg. 54,160, 54,175 (1997) (to be codified at 29 C.F.R. § 1910) (proposed Oct. 17, 1997). The agency argues, however, that its TB Standard is nevertheless needed to prevent a resurgence of the disease and to achieve the goal of the National Advisory Committee for the elimination of TB to reduce the number of annual active cases to 3.5 per 100,000 by the year 2000. See *id.* at 54,173-75. OSHA is correct that enforceable infection control regulations are needed to prevent the lack of employer compliance that led to institutional outbreaks of TB in the early 1990s. However, its authority to issue a new standard is preconditioned upon the current existence of a significant risk to the health and safety of workers.

239. See STEPHEN BREYER, *BREAKING THE VICIOUS CIRCLE: TOWARD EFFECTIVE RISK REGULATION* 11 (1993).

240. For example, OSHA planned to complete only four standards during fiscal year 1996. See Dean Scott, O.S.H. Rep. (BNA) at 1655, 1659-60 (May 8, 1996). During fiscal year 1996, OSHA actually issued three new final standards, all of which amended existing standards. See Occupational Exposure to Methylene Chloride, 62 Fed. Reg. 1494 (1997) (to be codified at 29 C.F.R. §§ 1910, 1915, 1926); Occupational Exposure to 1,3-Butadiene, 61 Fed. Reg. 56,746 (1996) (codified at 29 C.F.R. §§ 1910, 1915, 1926); Safety Standards for Scaffolds Used in the Construction Industry, 61 Fed. Reg. 46,026 (1996) (codified at 29 C.F.R. § 1926). For an analysis of OSHA's standard-setting track record and suggestions for improving it, see Shapiro & McGarity, *supra* note 66.

241. Workers in the U.S. continue to face a significant risk of injury and death. In 1995, 6,210 workers died and 3.6 million were disabled from occupational injuries at a cost of \$119 billion in lost wages, employer expenses, and medical care. See John Nordheimer, *One Day's Death Toll on the Job*, N.Y. TIMES, Dec. 22, 1996, at F1. It has been estimated that three to five percent of all cancers are attributable to occupational exposure. See McGarity & Shapiro, *supra* note 213, at 592.

D. Generic Rulemaking

While the law is somewhat unsettled, OSHA apparently has the authority to promulgate generic standards that apply to all workplaces in which workers are exposed to any of a class of substances.²⁴² The chief advantage of generic rulemaking is that it relieves OSHA of the onerous burden of separately calculating the risk of each substance for each industry.

While generic standard-setting may be desirable for regulating risks caused by non-human workplace hazards,²⁴³ the practice is highly problematic in the context of workplace contagion. First, by not requiring precise industry-by-industry risk assessments, generic rulemaking permits OSHA to include some categories of workers in a standard on the basis of assessments of the risk to other categories of workers.²⁴⁴ This can lead to overly broad standards that mandate infection controls in workplaces in which there is virtually no risk to employees. In addition to imposing an unjustified economic burden on employers, such standards can also generate misunderstanding among employees and the general population about how particular pathogens are transmitted, and increase fear and stigmatization of the infected.

Second, by not requiring separate risk assessments for each infectious agent, generic rulemaking permits OSHA to equivocate about the level of risk that each type of covered worker faces from exposure to a particular microbe. For example, in its BBPs standard, OSHA sidestepped a precise conclusion about whether dentists and dental workers face a significant risk

242. In contrast to the setting of standards industry-by-industry or substance-by-substance, "generic rulemaking" refers to the setting of comprehensive, multi-substance standards that apply to all workplaces in which workers are exposed to any of a class of substances. A majority of federal circuit courts of appeals have upheld the validity of generic rules. *See American Dental Ass'n v. Martin*, 984 F.2d 823, 827 (7th Cir. 1993) (upholding OSHA's authority to promulgate generic standards for BBPs without calculating risk industry-by-industry); *Associated Builders Contractors, Inc. v. Brock*, 862 F.2d 63 (3d Cir. 1988) (OSHA not required to make industry-specific significant risk findings for hazard communication standard); *UAW v. OSHA*, 37 F.3d 665, 670-71 (D.C. Cir. 1994) (OSHA's failure to disaggregate risk assessments by industry for workers who service powered industrial equipment did not invalidate significant risk finding). *But see AFL-CIO v. OSHA*, 965 F.2d 962 (11th Cir. 1992) (invalidating OSHA standard because no significant risk finding for each of 428 chemicals regulated by single standard).

243. Commentators have urged OSHA to employ generic rulemaking to expedite its standard-setting process for the numerous proven carcinogens that remain unregulated. *See, e.g., McGarity, supra* note 204, at 103 (OSHA should use generic standard setting rather than regulating industry-by-industry or chemical-by-chemical).

244. For example, in its generic BBPs standard, non-health care workers, such as lifeguards, were included in OSHA's BBPs standard on the basis of risk assessments for health care workers. *See Occupational Exposure to Bloodborne Pathogens*, 56 Fed. Reg. 64,004, 64,023-25 (1991) (codified at 29 C.F.R. § 1910.1030).

of exposure to HIV,²⁴⁵ even though the evidence it gathered established that they do not.²⁴⁶ Imprecise assessments of the risk posed by a particular microbe hardly help to allay workers' irrational fears of transmission,²⁴⁷ and like the exaggerated risk assessments encouraged by the significant risk requirement,²⁴⁸ they may lead to discrimination against PWIDs or perceived PWIDs.²⁴⁹

Third, the imprecise risk assessments and overly broad standards that can result from generic rulemaking may contribute to judicial overregulation of

245. According to the American Dental Association, no dental worker has become infected with HIV as a result of an occupational exposure, even though personal protective equipment was not worn during the first 10 years of the AIDS epidemic. *See id.* at 64,092. These data led the American Dental Association to characterize dental workers' risk of occupational infection with HIV as "extremely low." *Id.* However, OSHA concluded that this risk was significant under *Industrial Union Dep't v. American Petroleum Inst.*, 448 U.S. 607 (1980).

246. OSHA's conclusion that dental workers face a significant risk of occupational exposure to HIV rests upon a single case of an HIV-infected dentist reported in a look-back study of 1,309 dental workers. *See Occupational Exposure to Bloodborne Pathogens*, 56 Fed. Reg. 64, 114, 64,020-21 (1991) (codified at 29 C.F.R. § 1910.1030). This study found one HIV-positive male dentist who lacked non-occupational risk factors, which the study defined as IV drug use and a history of male homosexual activity. *See id.* at 64,021. The study's apparent failure to include unprotected heterosexual sex as a non-occupational risk factor raises serious questions about the validity of its findings, because this mode of HIV transmission causes about 10% of all AIDS cases in the United States. *See Centers for Disease Control and Prevention, First 500,000 AIDS Cases—United States*, *supra* note 27, at 849. Indeed, this method for deducing work-related infections would lead to the erroneous conclusion that Earwin (Magic) Johnson contracted HIV from playing basketball instead of through unprotected heterosexual sex, as he has said.

247. Despite long-standing efforts to educate the public about how HIV is and is not transmitted, and about the likelihood of transmission during various activities, widespread misunderstanding persists. *See Nicholas Freudenberg, AIDS Prevention in the United States: Lessons from the First Decade*, 20 INT'L J. HEALTH SERVICES 589, 591 (1990) (between 25% and 40% of population support quarantine, mandatory HIV testing, and excluding HIV infected children from school). In *EEOC v. Gulf Grinding Co.*, No. H-95-0382 (D. Tex. July 21, 1995), a factory worker with AIDS was terminated after a majority of his co-workers voted against permitting him to continue working. *See Firing by Vote of Employee with AIDS Brings \$65,000 Payment from Texas Firm*, 157 Daily Lab. Rep. (BNA), at A-1 (Aug. 15, 1995).

248. *See supra* notes 170-86 and accompanying text.

249. Compared to other HCWs, dentists overestimate their risk of occupational infection with HIV, and as a consequence, more frequently deny treatment to HIV-infected patients. *See Scott Burris, Dental Discrimination Against the HIV-Infected: Empirical Data, Law and Public Policy*, 13 YALE J. ON REG. 1, 10-18 (1996) (studies consistently show higher rates among dentists of negative attitudes toward treating patients with HIV, which are significantly associated with misconceptions about risk of HIV transmission). In light of this, OSHA's imprecision on the issue of dental workers' risk of occupational infection with HIV was particularly unfortunate. First, by falsely creating the impression that dentists face a significant risk of contracting HIV from their patients, the OSHA standard may feed existing irrational fears among dentists and increase denials of dental treatment to HIV-infected patients. Second, by failing to state explicitly that the evidence demonstrated that dentists do *not* face a significant risk of occupational infection with HIV, OSHA missed an opportunity to send an affirmative, official message that could help bring dentists' perception of their occupational risk more in line with scientific reality and reduce discrimination against HIV-infected patients.

the risk of contagion in other legal contexts.²⁵⁰ For example, OSHA's failure to state that dental workers do not face a significant risk of occupational infection with HIV permitted one state court judge to cite OSHA's BBPs standard as support for his decision to uphold the attempted murder conviction of an HIV-positive inmate for biting a guard.²⁵¹ Additionally, overly broad OSHA contagion standards that impose detailed infection control measures on certain industries, despite the absence of a particularized showing of significant risk, may generate judicial overregulation of the risk of contagion in tort actions against employers where violations of OSHA standards are admissible to prove negligence.²⁵²

Finally, the overly broad contagion standards that can result from generic rulemaking may irrationally enlarge the scope of services that employees can lawfully refuse to provide to PWIDs and perceived PWIDs. Under the Act, employees have the right to refuse to perform tasks if they have a reasonable apprehension of incurring death or serious injury.²⁵³ When OSHA includes categories of workers in contagion standards based on exaggerated and imprecise risk estimates, it expands the services that employees may legitimately deny to PWIDs and perceived PWIDs if employers are not in strict compliance.²⁵⁴

250. Commentators have similarly recognized a relationship between imprecise CDC guidelines and the imposition of unnecessary restrictions upon people infected with HIV by the courts. See Leonard H. Glantz et al., *Risky Business: Setting Public Health Policy for HIV-Infected Health Care Professionals*, 70 MILBANK Q. 43, 68 (1992) (lack of explicit guidelines by CDC on restricting duties of HIV-infected health care workers heightens risk that courts will use recommendations improperly).

251. See *State v. Smith*, 621 A.2d 493, 513 (N.J. Super. Ct. App. Div. 1993) (in upholding conviction, the judge noted that OSHA had imposed "strict standards" on dental workers because of "infectious potential" of saliva). Additionally, OSHA's characterization of dental workers' risk of occupational infection with HIV was referred to by Judge Posner in reaching the irrational conclusion that a jail superintendent acted reasonably in notifying a prison barber that an inmate was HIV-positive, and that barbers should employ universal precautions to protect themselves from contracting HIV from their patrons. See *Anderson v. Romero*, 72 F.3d 518, 525 (7th Cir. 1995).

252. Generally, employees who are exposed to or contract infectious diseases on the job may not sue their employers for negligence and instead are limited to recovery under state workers' compensation laws. See, e.g., *Allen v. Public Serv. Co. of Indiana*, 104 N.E.2d 756 (Ind. Ct. App. 1952) (maintenance worker who contracted contagious dysentery from co-worker limited to recovery against employer under workers' compensation law); *Blythe v. Radiometer America, Inc.*, 866 P.2d 218 (Mont. 1993) (respiratory therapist exposed to HIV while using defective lab equipment limited to recovery under workers' compensation laws for emotional distress); *Snyder v. Pocono Med. Ctr.*, 656 A.2d 534 (Pa. Super. Ct. 1995) (nurse who contracted TB from hospital patient limited to recovery under state workers' compensation law).

253. See 29 C.F.R. § 1977.12(b)(2) (1996). See also *Whirlpool Corp. v. Marshall*, 445 U.S. 1 (1980) (upholding validity of OSHA regulation providing that employees have right to refuse to perform tasks because of reasonable apprehension of death or serious injury).

254. To be protected under 29 C.F.R. § 1977.12(b)(2), employees must have a reasonable and good faith belief in their exposure to risk of harm. See *Donovan v. Hahner, Foreman & Harness, Inc.*, 736 F.2d 1421 (10th Cir. 1984) (employee's apprehension of injury from equipment reasonable

III. RETHINKING FEDERAL REGULATION OF CONTAGION

A. *The Limits of Judicial Review*

Judicial review alone is not an adequate check on irrationality, inequity, and unintended consequences in OSHA contagion standards. As a threshold matter, petitioners seeking to invalidate standards because of their adverse impact on civil rights or the public health may have difficulty establishing standing.

The Occupational Safety and Health Act states that *any* person who may be adversely affected by an OSHA standard may obtain judicial review.²⁵⁵ This language, which mirrors that in the APA, seems to imply that standing to obtain judicial review of an OSHA standard is dependent only upon a showing of injury.²⁵⁶ Consistent with decisions interpreting the APA,²⁵⁷ however, courts have required plaintiffs challenging OSHA standards to meet the zone of interests test in addition to demonstrating harm.²⁵⁸

While the zone of interests test has been construed rather broadly in suits challenging agency actions under the APA,²⁵⁹ its interpretation in the context

because of repeated prior malfunctions); *Dole v. H.M.S. Direct Mail Service, Inc.*, 752 F. Supp. 573, 576 (W.D.N.Y. 1990) (employee's apprehension measured by standard of reasonable person under the circumstances). An employee's refusal to perform a task because it would necessitate encountering an infectious agent without an infection prevention measure required by an OSHA contagion standard would undoubtedly satisfy this burden.

255. The Act states:

Any person who may be adversely affected by a standard issued under this section may . . . file a petition challenging the validity of such standard with the United States court of appeals for the circuit wherein such person resides or has his principal place of business, for a judicial review of such standard The determinations of the secretary shall be conclusive if supported by substantial evidence in the record considered as a whole.

29 U.S.C. § 655(f) (1994). Because the Act provides a specific mechanism for obtaining judicial review of OSHA contagion standards, it is exclusive. *See General Finance Corp. v. FTC*, 700 F.2d 366, 368 (7th Cir. 1983) (method for reviewing adverse agency action specified in statute is exclusive).

256. The APA states: "A person suffering legal wrong because of agency action, or adversely affected or aggrieved by agency action within the meaning of a relevant statute, is entitled to judicial review thereof." 5 U.S.C. § 702 (1994).

257. *See Lujan v. National Wildlife Fed'n*, 497 U.S. 871, 873 (1990); *Clarke v. Securities Indus. Ass'n*, 479 U.S. 388, 396-97 (1987).

258. *See Fire Equip. Mfrs.' Ass'n v. Marshall*, 679 F.2d 679, 681 (7th Cir. 1982) (rejecting argument that broad language of § 655(f) relieves petitioners of necessity of meeting "zone of interest" test).

259. While the Supreme Court's *application* of the zone of interests test may not be entirely consistent, it has consistently *described* the test in rather liberal terms. *See, e.g., Clarke*, 479 U.S. at 399-400 (zone of interests test, which is "not meant to be especially demanding," allows standing unless a plaintiff's interests are so marginally related to or inconsistent with the purpose of the relevant statute that it can be assumed that Congress intended not to permit the suit); *Block v. Community Nutrition Inst.*, 467 U.S. 340, 345-46 (1984) (standing denied only when evidence of congressional

of litigation under the Occupational Safety and Health Act has been considerably more restrictive. Specifically, courts have recognized only the interests of employees and employers as falling within the zone protected by the Act.²⁶⁰ Parties with other interests, who cannot obtain derivative standing on the basis of shared interests with employers or employees, have not succeeded in broaching the courthouse door.²⁶¹

If this narrow interpretation of the zone of interests test is applied to challenges to OSHA contagion standards by public health and civil rights advocates, courts may deny standing to these groups.²⁶² In addition to

intent to preclude a plaintiff from obtaining judicial review); *Association of Data Processing Serv. Orgs. v. Camp*, 397 U.S. 150 (1970) (stating that trend is to enlarge class of people who may protest administrative action). For a detailed analysis of the evolution of standing requirements under the APA generally and the zone of interests test in particular, see KENNETH CULP DAVIS & RICHARD J. PIERCE, JR., *ADMINISTRATIVE LAW TREATISE* § 16.9, at 53 (3d ed. 1994).

260. "It cannot be disputed that the interests the Act seeks to protect are the interests of employees in securing safe working conditions." *Marshall*, 679 F.2d at 682. See also *R.T. Vanderbilt Co. v. OSHRC*, 708 F.2d 570, 577 (11th Cir. 1983) (Congress intended Act to protect interests of employees in securing safe working conditions); *Calumet Indus., Inc. v. Brock*, 807 F.2d 225, 228 (D.C. Cir. 1986) (interest to be protected by the Act is worker safety).

261. See *Marshall*, 679 F.2d at 678 (trade association representing manufacturers of fire-fighting equipment did not have standing to challenge an OSHA standard, even though it resulted in lost profits for their industry); *R.T. Vanderbilt*, 708 F.2d at 577-78 (mineral product supplier, which was not subject to OSHA's asbestos standard, lacked standing to challenge it on ground that it would harm its economic interests); *Calumet*, 807 F.2d at 228 (oil manufacturers lacked standing to challenge OSHA labeling requirement applicable to competitors, because they were "entrepreneurs seeking to protect their competitive interests," rather than "protectors of worker safety"). Several courts have held that vendors have derivative standing to challenge OSHA standards that will adversely impact them by adversely impacting employer/vendors directly regulated by the standard. See *National Cottonseed Prods. Ass'n v. Brock*, 825 F.2d 482, 490 (D.C. Cir. 1987) (manufacturer of disposable respirators had standing to challenge OSHA standard applicable to cottonseed industry that purchased product based on "the vendor-vendee relationship alone") (citing *FAIC Secs., Inc. v. United States*, 768 F.2d 352, 361 (D.C. Cir. 1985)); *Color Pigments Mfrs. Ass'n v. OSHA*, 16 F.3d 1157, 1160 (11th Cir. 1994) (association representing color pigment manufacturers had standing to challenge an OSHA regulation of dry color formulators that purchased their pigments "due to the significant effect on their interests created by a threat to the existence of the dry color formulator industry"). These cases are not likely to benefit civil rights and public health advocates challenging OSHA contagion standards, because there is no analogous identity of interests between these parties and the employers or employees who are subject to the standard, and thus no basis for derivative standing.

262. The Supreme Court's most recent decisions on the zone of interests test shed little light on whether this court would grant standing to public health or civil rights advocates challenging an OSHA contagion standard. For example, in *Bennett v. Spear*, 117 S. Ct. 1154 (1997), the Supreme Court unanimously held that the standing provision of the Endangered Species Act ("ESA"), which states that "any person may commence a civil suit," permitted petitioners who had recreational, aesthetic, or commercial interests in certain bodies of water to challenge a Fish and Wildlife Service opinion restricting the use of these waters to protect certain species of fish. The language of the standing provision of the ESA is considerably broader than that in the Act. Indeed, the wording of the Act's standing provision more closely resembles—in the court's words—"more restrictive formulations" of the test, contained in other statutes, from which the court distinguishes the provision of the ESA. See *id.* at 1162 (distinguishing standing provision of the ESA from those contained in various environmental statutes, which, like the Act, make standing dependent upon a showing of an adversely

foreclosing judicial remediation of contagion standards, this could also lead OSHA administrators to be less protective of these interests during the rulemaking process. It has long been recognized that the prospect of judicial review influences agency decision makers to develop regulations that address the interests of potential legal challengers.²⁶³ Thus, the absence of pressure to address the interests of the infected and the general public may lead to administrative resolutions that are less advantageous to those interests. Specifically, the pressure to meet the demands of employers and employees, and the absence of pressure to address the demands of the infected, may create a general tendency within OSHA to adopt standards that are either over-protective (thereby meeting the demands of employees) or low-cost (thereby meeting the demands of employers) or both (thereby satisfying both groups). Indeed, contagion standards such as the TB Standard that permit employers to exclude PWIDs from the workplace rather than requiring them to install engineering controls necessary to admit and provide services to PWIDs,²⁶⁴ are generally a relatively low-risk option for OSHA regulators because they satisfy the interests of both employers and employees, its two potential adversaries.²⁶⁵

In the event that courts do apply the APA's more liberal zone of interests test and grant standing to civil rights and public health advocates—as they

affected interest).

263. Professor Richard J. Pierce, Jr. has stated:

Standing to obtain judicial review of agency action is a critical determinant of a party's ability to participate effectively in the agency's decisionmaking process. Agencies' administrators recognize that they must respond to arguments made by parties that can challenge policy decisions in court, but they can ignore with relative impunity arguments made by parties that lack that power.

Richard J. Pierce, Jr., *The Role of the Judiciary in Implementing An Agency Theory of Government*, 64 N.Y.U. L. REV. 1239, 1283-84 (1989).

264. See *supra* notes 112-18 and accompanying text.

265. An OSHA standard that required employers to exclude or otherwise discriminate against PWIDs would conflict with the Rehabilitation Act and the ADA in the absence of a significant risk to the health of others. See *Board of Nassau County v. Arline*, 480 U.S. 273, 287 (1987). Such a standard would also run afoul of *Industrial Union Dep't v. American Petroleum Inst's* significant risk requirement. 448 U.S. 607 (1990). Additionally, an OSHA contagion standard conflicts with the Rehabilitation Act and ADA if it requires employers to exclude or otherwise discriminate against PWIDs even though reasonable modifications of employers' policies, practices, or procedures could eliminate the risk to employees. See *Arline*, 480 U.S. at 289 n.19 (employers have affirmative obligation to reasonably accommodate disabled employees). However, challenges to the exclusion of the infected under these statutes are likely to fail if modifications, such as engineering controls and personal protective equipment, needed to eliminate the risk to employees would impose an undue financial burden on employers. See *id.* at 287 n.16 (accommodation not reasonable if it imposes undue financial or administrative burdens on employer). See also Gostin, *supra* note 18, at 111 (courts have been reluctant to use disability law to require expenditures of resources to accommodate needs of the disabled).

should²⁶⁶—OSHA contagion standards are still not likely to be invalidated for being based on imprecise or exaggerated assessments of workers' risk of contagion.²⁶⁷ With few exceptions,²⁶⁸ courts do not interpret the Act's substantial evidence test²⁶⁹ as requiring rigorous scrutiny of OSHA's risk assessment methods or scientific data to unearth shaky assumptions and conclusions,²⁷⁰ particularly when, if OSHA has erred, it is on the side of

266. Under a faithful application of the zone of interests test as articulated by the Supreme Court in *Clarke v. Securities Indus. Ass'n.*, 479 U.S. 388, 399-400 (1987), public health and civil rights advocates should be granted standing to challenge OSHA contagion standards because there is no evidence that Congress intended to forbid legal challenges by these groups. Moreover, there are compelling policy reasons for granting standing to representatives of these interests. First, OSHA is likely to be more responsive to these interests when developing contagion standards if it faces the prospect of legal challenges. Second, because the Act is biased against public health, PWIDS, and perceived PWIDS (see *supra* Part III.B), granting standing to these groups will help to ensure that this bias is not reflexively replicated in contagion standards. Indeed, a recent analysis of standing decisions suggests that advocates for PWIDs, perceived PWIDs, and the public are likely to be granted standing to challenge contagion standards if courts view the Act and OSHA as structurally biased against these interests. See Jonathan R. Macey, *The Tug of War Over Administrative Agencies*, 80 GEO. L.J. 671, 690-91 (1992) (interest groups granted standing if agency biased against them, and denied standing if have access to agency's deliberative process).

267. For a discussion of the possible adverse consequences of OSHA's imprecise assessments of the risk of transmission, see the discussion *supra* note 170 and accompanying text.

268. The Fifth and Eleventh Circuit Courts of Appeals engage in the most rigorous analysis of OSHA's risk assessments. See *Texas Indep. Ginners Ass'n v. Marshall*, 630 F.2d 398 (5th Cir. 1980) (invalidating OSHA standard on exposure to cotton dust because insufficient proof of significant risk); *AFL-CIO v. OSHA*, 965 F.2d 962 (11th Cir. 1992) (invalidating OSHA standard on air contaminants because significant risk requirement not met for every regulated substance). There is considerable disagreement among scholars about the appropriate scope of judicial review of administrative determinations in general, and OSHA regulations in particular. See, e.g., Cherrington, *supra* note 14 (courts should adopt hard-look approach to prevent OSHA from imposing onerous and burdensome regulations on employers); McGarity, *supra* note 204 (accomplishing statute's goal of improving worker safety requires judicial deference to OSHA's conclusions and decreased requirements that agency provide rationale for every nuance of standard); Cass R. Sunstein, *On the Costs and Benefits of Aggressive Judicial Review of Agency Action*, 1989 DUKE L.J. 522 (arguing that aggressive judicial review of agency determinations needed to increase legality, prevent arbitrariness, and ensure against undesirable regulation); Edward W. Warren & Gary E. Marchant, "More Good Than Harm": A First Principle for Environmental Agencies and Reviewing Courts, 20 ECOLOGY L.Q. 379, 433 (1993) (substantive review by courts of regulations needed to ensure that they provide net benefit to society, adopt least restrictive regulatory alternative, and consider risk-risk tradeoffs).

269. The Secretary's determinations shall be conclusive if supported by substantial evidence in the record considered as a whole. See 29 U.S.C. § 655(f) (1994). In *American Petroleum*, the Supreme Court held that OSHA bears the burden of proving its finding by substantial evidence. 448 U.S. 607, 653 (1980).

270. See, e.g., *Building & Constr. Trades Dep't v. Brock*, 838 F.2d 1258, 1266, 1266-67 (D.C. Cir. 1988) (courts' function is not to decide what assumptions or findings they would make if presented with data available to OSHA); *Public Citizen Health Research Group v. Tyson*, 796 F.2d 1479, 1495 (D.C. Cir. 1986) (role of courts is to assess reasonableness of OSHA's conclusions, not to reweigh evidence and come to own conclusions); *ASARCO, Inc. v. OSHA*, 746 F.2d 483, 494 (9th cir. 1984) (significant risk finding reasonable if based on reputable body of scientific thought); *United Steelworkers of America v. Marshall*, 647 F.2d 1189, 1207-08 (D.C. Cir. 1980) (courts' role in reviewing OSHA standards is to ensure public accountability, not to second-guess agency decisions).

overprotecting workers.²⁷¹ Indeed, judicial deference to OSHA's judgments and methods is greatest when the agency regulates risks like contagion²⁷² that are especially difficult to quantify with a high degree of certainty.²⁷³ Absent glaring defects in the record,²⁷⁴ courts generally defer to OSHA's judgments so long as the agency explains its data, assumptions, and logic and concedes as much when it has been unable to make precise risk estimates.²⁷⁵

that fall within zone of reasonableness).

271. See *ASARCO*, 746 F.2d at 494 (judicial review should be "generous" when OSHA standard is overprotective); *Building & Constr. Trades Dep't*, 838 F.2d at 1266 (bias toward worker safety not grounds for invalidating standard).

272. Estimating the likelihood of microbial transmission between human beings is especially prone to uncertainty, because the traditional risk assessment methodology of using animal studies is inappropriate and it is unethical to intentionally infect human beings. Consequently, OSHA's statistical predictions of the likelihood of transmission in various occupational settings are likely to be based on abstract mathematical models or on extrapolations from surveillance data. In either case, the high degree of uncertainty increases the likelihood of overregulation and the danger that the regulatory process will become politicized. Several authors have examined the relationship between scientific uncertainty and the politicization of regulating the risk of HIV transmission. See Harvey M. Sapolsky, *The Politics of Risk*, 119 DAEDALUS 83, 83 (1990) ("[w]ithout the constraints of certain knowledge, the regulation of risk becomes intensely political"); RONALD BAYER, PRIVATE ACTS, SOCIAL CONSEQUENCES: AIDS AND THE POLITICS OF PUBLIC HEALTH 138 (1989) (scientists' unwillingness to frame risk assessments in absolute terms leads to calls for excluding HIV-positive persons); Dorothy Nelkin & Stephen Hilgartner, *Disputed Dimensions of Risk: A Public School Controversy over AIDS*, 64 MILBANK Q. 118 (1986) (uncertainty in risk assessments of HIV transmission used to argue in favor of exclusion of HIV-positive children from schools).

273. See *American Petroleum*, 448 U.S. at 656; *Public Citizen*, 796 F.2d at 1505 (judicial deference to OSHA greatest when it "regulates on the borders of the unknown"). For analyses of the impact of uncertainty upon the regulation of risks generally, see BREYER, *supra* note 239, at 45 (uncertainties in scientific data lead regulators to retreat to principle of erring on side of safety and irrational overregulation); Peter M. Sandman, *Getting to Maybe: Some Communications Aspects of Siting Hazardous Waste Facilities*, in READINGS IN RISK 233, 238 (Theodore S. Glickman & Michael Gough, eds. 1990) (risk aversion increased by uncertainty in probabilistic predictions, especially where disagreement among experts); Howard A. Latin, *The Feasibility of Occupational Health Standards: An Essay on Legal Decisionmaking Under Uncertainty*, 78 NW. U. L. REV. 583, 629 (1983) (courts should resolve factual uncertainty in risk assessments by balancing interests and relative priorities in applicable legislation).

274. See *American Petroleum*, 448 U.S. at 662 (studies of benzene's carcinogenicity at high level of exposure do not support OSHA's finding of significant risk at low levels of exposure); *UAW v. Pendergrass*, 878 F.2d 389 (D.C. Cir. 1989) (one equivocal study involving rats insufficient to support OSHA's conclusion on risk of contracting cancer from exposure to formaldehyde); *Building & Constr. Trades Dep't v. Brock*, 838 F.2d 1258 (D.C. Cir. 1988) (invalidating OSHA's ban on spraying asbestos products because nothing in record supported its conclusion that modern process of encapsulating spray-on asbestos presents any danger to workers); *Texas Indep. Ginners Ass'n v. Marshall*, 630 F.2d 398, 407 (5th Cir. 1980) (rejecting OSHA's finding that textile workers faced significant risk of contracting brown lung disease from exposure to cotton dust because based on studies of foreign workers involving dissimilar working conditions); *Public Citizen*, 796 F.2d at 1506 (no evidence in record to support OSHA's conclusion that short-term exposure to ethylene oxide did not pose significant risk and resulting failure to set standard).

275. See *American Textile Mfrs. Inst. v. Donovan*, 452 U.S. 490, 528 n.52 (1981) ("the agency's candor in confessing its own inability to achieve a more precise estimate should not precipitate a judicial review that nonetheless demands what the congressionally delegated 'expert' says it cannot

Moreover, judicial review cannot be relied upon to adequately protect the interests of third parties who are invisible to the substantive structure of the Act²⁷⁶ and under-represented in the standard-setting process.²⁷⁷ Absent a blatant conflict with the federal Rehabilitation Act or the Americans with Disabilities Act,²⁷⁸ courts are unlikely to invalidate contagion standards ad hoc on the basis of exogenous interests and policy considerations. These interests and considerations include the adverse impact on public health or civil rights, provided the statutory requirements of enhanced worker safety, significant risk, and economic and technological feasibility have been met.²⁷⁹

Finally, a substantial body of civil rights decisions strongly suggests that judges have great difficulty with managing the risk of contagion in environments that present more than a trivial risk of transmission. In *School Board of Nassau County v. Arline*,²⁸⁰ the Supreme Court held that the federal Rehabilitation Act prohibits employers from excluding people with contagious diseases from the workplace unless they pose a "significant risk" of transmitting the disease to others and reasonable accommodation will not eliminate this risk.²⁸¹ Consistent with its concept of significant risk in *Industrial Union Department v. American Petroleum Institute*,²⁸² the

provide").

276. Judicial review of OSHA contagion standards is, of course, bounded by the purpose and substantive provisions of the Act, which, as previously stated, do not provide a framework for balancing interests other than those of employers and employees, or concerns other than worker safety and employer costs. See Martin Shapiro, *Administrative Discretion: The Next Stage*, 92 YALE L.J. 1487, 1521 (1983): "When a statute is genuinely underdetermined, there is no legitimate mode of judicial control over agency discretion."

277. For a general discussion of the problem associated with relying on courts to protect interests that are underprotected in an agency's enabling legislation or rulemaking process, see Richard B. Stewart, *The Reformation of American Administrative Law*, 88 HARV. L. REV. 1667, 1787 (1975) (reviewing courts lack means of defining relevant interests and of ascertaining distribution of weights to determine whether agency decision has been distorted).

278. See *supra* note 265.

279. *Texas Ginnery*, 630 F.2d at 405 (discussing "consistency requirement" that OSHA's actions in accord with Act's purpose and language); *AFL-CIO v. OSHA*, 965 F.2d 962, 970 (11th Cir. 1992) (OSHA's policy decisions proper if consistent with language and purpose of the Act).

280. 480 U.S. 273 (1987).

281. See *id.* at 287 n.16.

282. 448 U.S. 607 (1990). It is clear that OSHA's significant risk standard also requires consideration of both the probability of adverse consequences from a workplace hazard and the severity of the consequences. In *American Petroleum*, the Supreme Court stated that "a workplace can hardly be considered 'unsafe' unless it threatens the workers with a significant risk of harm." 448 U.S. at 642. See also *Kelly Springfield Tire Co., Inc. v. Donovan*, 729 F.2d 317, 323 (5th Cir. 1984) ("The significant risk standard, as enunciated in the Benzene [American Petroleum] case, looks equally to the likelihood of an accident and the seriousness of the potential harm"); *Pratt & Whitney Aircraft v. Donovan*, 715 F.2d 57, 64 (2d Cir. 1983) (Secretary must show more than the mere possibility of injury; must show that potential hazard presents significant risk of harm). As guidance in determining how much risk is too much, the Supreme Court has suggested that a one in a billion risk that a worker will die is insignificant, while a one in a thousand risk of death is significant. See *American Petroleum*,

Supreme Court in *Arline* made clear that assessing whether a risk is significant, and therefore unacceptable, requires consideration of *both* the probability that the disease will be transmitted *and* the gravity of the associated harm.²⁸³

Application of the *Arline* standard over the past decade demonstrates that federal judges are capable of faithfully applying the significant risk test and deeming a risk acceptable if the scientific evidence establishes that the statistical probability of microbial transmission in a particular setting is virtually nonexistent, and that the contact between the infected and uninfected does not involve a proven route of transmission.²⁸⁴ However, when confronted with settings such as health care facilities, in which contact with body fluids regularly occurs, judges consistently shrink from conscientiously applying the probabilistic aspect of the significant risk test, even when the scientific evidence establishes that the likelihood of transmission is not significant.²⁸⁵ Instead, in these cases, judges either routinely lower the critical threshold for measuring statistical significance or ignore this criterion altogether and deem the risk unacceptable because of the

448 U.S. at 655. Since *American Petroleum*, OSHA has viewed itself as obligated to regulate whenever a workplace hazard presents a one in a thousand chance of death. See *UAW v. Pendergrass*, 878 F.2d 389, 392 (D.C. Cir. 1989) (OSHA acknowledges that it believes it must regulate if it finds a risk at the 1/1000 level); *Building & Constr. Trades Dep't v. Brock*, 838 F.2d 1258, 1265 (D.C. Cir. 1988) (1.64 excess deaths per 1000 from exposure to asbestos is significant); *Public Citizen Health Research Group v. Tyson*, 796 F.2d 1479, 1502-03 (D.C. Cir. 1986) (12-23 excess deaths per 10,000 workers from exposure to ethylene oxide is a significant risk). OSHA has indicated that it views 6 excess death per 1,000,000 as safe. See *UAW*, 878 F.2d at 392.

283. 480 U.S. at 288. The regulations promulgated under the Americans With Disabilities Act expressly incorporate *Arline's* significant risk test. See 29 C.F.R. § 1630.2(r) (1996) (significant risk means "high probability of substantial harm").

284. With few exceptions, courts have correctly held that people infected with HIV do not pose a significant risk in environments such as schools, prisons, restaurants, and offices where interpersonal contact does not involve a proven route of transmission. See, e.g., *Thomas v. Atascadero Unified Sch. Dist.*, 662 F. Supp. 376 (C.D. Cal. 1986) (child infected with HIV did not pose significant risk to classmates); *Martinez v. School Bd. of Hillsborough County*, 711 F. Supp. 1066 (M.D. Fla. 1989) (same); *Ray v. School Dist. of DeSoto county*, 666 F. Supp. 1524 (M.D. Fla. 1987); *Doe v. Dolton Elementary Sch. Dist.*, 694 F. Supp. 440 (N.D. Ill. 1988); see also *Casey v. Lewis*, 773 F. Supp. 1365 (D. Ariz. 1991) (HIV-positive inmate food handlers do not pose significant risk of transmitting HIV); *Austin v. Pa. Dep't of Corrections*, 876 F. Supp. 1437 (E.D. Pa. 1995) (same).

285. During the 15-year AIDS epidemic, there has been only one reported case of HCW-to-patient transmission of HIV involving a dentist. The CDC, however, has not conclusively determined how the dentist transmitted the virus to several patients. See Laurie M. Robert et. al., *Investigations of Patients of Health Care Workers Infected with HIV*, 122 ANNALS INTERNAL MED. 653 (1995). In 1991, the CDC estimated that the likelihood of HIV transmission from HCW to patient as between 1/40,000 and 1/400,000. See Norman Daniels, *HIV-Infected Professionals, Patient Rights, and the 'Switching Dilemma'*, 267 JAMA 1368, 1369 (1992) (citing Centers for Disease Control, *Estimates of the Risk of Endemic Transmission of Hepatitis B Virus and Human Immunodeficiency Virus to Patients by the Percutaneous Route During Invasive Surgical and Dental Procedures*, Draft (Nov. 27, 1991)).

gravity of the harm.²⁸⁶

This same failed analysis is discernible in the few existing decisions involving OSHA contagion regulations. In *American Dental Ass'n v. Martin*,²⁸⁷ the American Dental Association argued that OSHA lacked authority to regulate the dental industry because the agency had not produced substantial evidence that dentists faced a statistically significant risk of contracting HIV and HBV from their patients.²⁸⁸ OSHA's evidence of dental workers' risk of occupational infection with HIV consisted of one look-back study of twenty-four health care workers that found one HIV-infected dentist.²⁸⁹ OSHA did not assess dentists' risk of occupational infection with hepatitis at all, choosing instead to rely on aggregated risk estimates for all health care workers.²⁹⁰

286. Courts have repeatedly held on the facts, and even as a matter of law, that HIV-positive health care workers—both those who perform and those who do not perform invasive procedures—pose a significant risk to patients. *See, e.g.,* *Mauro v. Borgess Med. Ctr.*, 1998 WL 75258 (6th Cir. 1998) (surgical technician posed significant risk as matter of law); *Doe v. University of Md. Med. Sys. Corp.*, 50 F.3d 1261, 1266 (4th Cir. 1995) (holding that neurosurgeon presented significant risk as matter of law because “some measure of risk” to patients exists); *Scoles v. Mercy Health Corp.*, 887 F. Supp. 765, 771 (E.D. Pa. 1994) (HIV-positive orthopedic surgeon posed significant risk as matter of law because of potential harm of disease, which is universally fatal); *Bradley v. University of Texas, M.D. Anderson Cancer Ctr.*, 3 F.3d 922, 924 (5th Cir. 1993) (“cognizable risk of permanent duration with lethal consequences” made HIV-positive surgical technologist “not otherwise qualified” to hold job under Rehabilitation Act); *Doe v. Washington University*, 780 F. Supp. 628 (E.D. Mo. 1991); *In re Hershey Med. Ctr.*, 595 A.2d 1290 (Pa. Super Ct. 1991).

287. 984 F.2d 823 (7th Cir. 1993). The majority opinion in *Martin* was written by Judge Richard Posner and joined by Judge Easterbrook. Judge Coffey dissented from the part of the majority opinion upholding the BBPs rule, and concurred with the part of the majority opinion invalidating the rule as it applied to employers whose employees worked off-site.

288. *See id.* at 827.

289. *See* Occupational Exposure to Bloodborne Pathogens, 56 Fed. Reg. 64,004, 64,014 (1991) (codified at 29 C.F.R. § 1910.1030). Judge Posner correctly characterized OSHA's evidence of dentists' risk of occupational exposure to HIV as not “meaningful” because of the smallness of the sample. *Martin*, 984 F.2d at 827. The epidemiological data presented by OSHA showed that, as of 1991, there were 24 cases of occupational infection with HIV among HCWs, none of whom were dentists or dental workers. *See* Occupational Exposure to Bloodborne Pathogens, 56 Fed. Reg. at 64,014. As of July 1, 1997, there were 52 documented cases of occupational infection among HCWs, none of whom were dentists. *See* Centers for Disease Control and Prevention, *Provisional Public Health Service Recommendations*, *supra* note 156.

290. *See* Occupational Exposure to Bloodborne Pathogens, 56 Fed. Reg. at 64,026. OSHA estimated the HBV infection rate for health care workers exposed to blood to be 3.47 to 4.21 out of 1,000. *See id.* HBV infection is lethal in one out of a thousand infections. *See id.* at 64,009. It estimated that the standard would prevent between 113 and 129 annual deaths among HCWs from HBV. *See Martin*, 984 F.2d at 825. Surprisingly, OSHA did not present the best available evidence to support its conclusion that dental workers face a significant risk of occupational infection with HBV: serologic surveys indicating that 10% to 30% of dental workers show evidence of past or present HBV infection, compared to one to two percent of adults in the United States. *See* Centers for Disease Control and Prevention, *Recommended Infection-Control Practices for Dentistry*, *supra* note 72, at 2. The imposition of universal precautions on dental workers is supported by this data and by evidence of HBV transmission from dental workers to patients, and from patient to patient. *See id.* (discussing

OSHA's evidence of dentists' risk of occupational infection with bloodborne pathogens was clearly insufficient to meet the substantial evidence and significant risk tests; indeed, analogous defects in the record have led to judicial invalidation of other OSHA standards.²⁹¹ Nevertheless, the majority in *Martin*, consistent with civil rights decisions discounting the probabilistic aspect of the *School Board of Nassau County v. Arline* standard, held that the risk faced by dentists was significant because it was "nontrivial."²⁹²

The apparent inability of judges to accept *any* risk of person-to-person transmission in settings where contact with body fluids regularly occurs is also evident in the *Secretary of Labor v. Waldon Health Care Center*.²⁹³ In this case, a three-commissioner panel of the Occupational Safety and Health Commission ("OSHC") reviewed citations issued to nursing homes under the General Duty Clause for exposing employees to HBV infection through contact with patients' body fluids. While professing to apply the Supreme Court's significant risk test from *Industrial Union Department v. American Petroleum Institute*,²⁹⁴ the Commission held that the Secretary had met the standard because nursing home employees could contract the HBV virus from residents "under other than a freakish or utterly implausible set of

reports of nine clusters of patients who were infected with HBV by their dentists before 1987, and cases of patient-to-patient transmission).

291. See *AFL-CIO v. OSHA*, 965 F.2d 962 (11th Cir. 1992) (invalidating OSHA standard on air contaminants because significant risk requirement not met for every regulated substance); *UAW v. Pendergrass*, 878 F.2d 389, 393-94 (D.C. Cir. 1989) (one equivocal study involving rats insufficient to support OSHA's conclusion on risk of contracting cancer from exposure to formaldehyde); *Texas Indep. Ginners Ass'n v. Marshall*, 630 F.2d 298, 407 (5th Cir. 1980) (rejecting OSHA's finding that textile workers faced significant risk of contracting brown lung disease from exposure to cotton dust because based on one study of foreign workers involving dissimilar working conditions); *Building & Constr. Trades Dep't v. Brock*, 838 F.2d 1258 (D.C. Cir. 1988) (invalidating OSHA's ban on spraying asbestos products because nothing in record to support its conclusion that modern process of encapsulating spray-on asbestos presents any danger to workers).

292. 984 F.2d at 827.

293. No. 89-3097, 1993 WL 119662 (O.S.H.R.C. Apr. 2, 1993).

294. "[W]hen the Secretary proceeds under the general duty clause, he must meet the same minimal criterion regarding the nature of the alleged hazard as he does when promulgating" a standard. *Id.* at *10. The Commission's decision in *Waldon* that the significant risk requirement in *Industrial Union Dep't v. American Petroleum Inst.* applies to the General Duty Clause was not compelled by precedent. 448 U.S. 607 (1990). In *Kelly Springfield Tire Co., Inc. v. Donovan*, 729 F.2d 317, 324 (5th Cir. 1984), the Fifth Circuit Court of Appeals held that the Secretary of Labor is not required to prove that the hazard posed significant risk under *American Petroleum* to establish violation of the General Duty Clause. During the Reagan Administration, however, the OSHC held that the significant risk test applies to enforcement of the General Duty Clause. See *Secretary of Labor v. Kastalon, Inc.*, (O.S.H.R.C. July 23, 1986) (holding that, to establish a violation of the General Duty Clause, the Secretary must show the probability that employees will suffer harm to satisfy significant risk test under *American Petroleum*).

circumstances.”²⁹⁵

A thorough analysis of the origins of judicial intolerance of any risk of microbial transmission in environments in which contact with body fluids regularly occurs is beyond the scope of this article.²⁹⁶ However, studies of risk perception consistently show that non-experts overestimate the riskiness of hazards that are unfamiliar, have catastrophic consequences, and especially, evoke “dread,” that is, fear on a visceral level.²⁹⁷ Since judges are likely to encounter only a few cases involving contagion in the course of a career, they seldom have the opportunity to develop the level of familiarity and knowledge that can help to bring risk assessments more in line with scientific data.²⁹⁸

The judicial assessments of risk in the majority and dissenting opinions in *American Dental Ass’n v. Martin* suggest the undue influence of “dread.” In his majority opinion, Judge Posner describes the patient with HIV and HBV as a “menace” traveling from health care provider to health care provider.²⁹⁹

295. *Waldon Health Care Center*, 1993 WL 119662 at *11 (citing *National Realty & Constr. Co. v. OSHRC*, 489 F.2d 1257, 1265 n.33 (D.C. Cir. 1973)). The Commission’s reliance upon this language from *National Realty* for its interpretation of the probabilistic aspect of the significant risk test in *American Petroleum* is misplaced. In *National Realty*, which was decided seven years before *American Petroleum*, the Court of Appeals for the District of Columbia used this language to describe the meaning of the “likely to cause” injury language in § 5(a)(1) of the Act, not to interpret the significant risk test in *American Petroleum*. See 489 F.2d at 1265 n.33.

296. Several commentators have suggested that courts’ failure to apply the Board of Nassau County v. Arline, 480 U.S. 273 (1987), test to cases involving HIV-infected health care workers emanates from the nature of the test itself. See, e.g., Barry Sullivan, *When the Environment is Other People: An Essay on Science, Culture, and the Authoritative Allocation of Values*, 69 NOTRE DAME L. REV. 597, 600 (1994) (failure to apply Arline test to difficult cases is function of courts’ difficulty with evaluating risks without adequate guidance from legislative branch); Sidney D. Watson, *Eliminating Fear Through Comparative Risk: Docs, AIDS, and the Anti-Discrimination Ideal*, 40 BUFF. L. REV. 739 (1992) (courts have trouble applying Arline test because it does not provide adequate criteria for determining when a risk is significant, which should be assessed by comparison with other risks that are tolerated in similar settings). However, courts have not had trouble applying *American Petroleum*’s significant risk test, which provides no more guidance than the Arline test, to non-human hazards such as carcinogens. This suggests that courts’ difficulty with applying the Arline significant risk test in cases involving HIV-infected HCWs stems not from the test itself, but rather from the nature of the risk, i.e., contagion harbored by human beings.

297. See Paul Slovic et al., *Rating the Risks*, in READINGS IN RISK, *supra* note 273, at 61, 72 (lay perception of risk most influenced by severity of consequences and dread); Paul Slovic et al., *Characterizing Perceived Risk*, in PERILOUS PROGRESS: MANAGING THE HAZARDS OF TECHNOLOGY 91, 114 (Robert W. Kates et al. eds, 1985) (dread most highly correlated with laypersons’ judgment of perceived and acceptable risks); Frank B. Cross, *The Public Role in Risk Control*, 24 ENVTL. L. 887, 924 (1994) (dread, which is often rooted in unfamiliarity, is best predictor of laypersons’ perception of risk); Richard J. Zeckhauser & W. Kip Viscusi, *Risk Within Reason*, 248 SCIENCE 559, 560 (1990) (people overestimate likelihood of low-probability, catastrophic, and feared risks).

298. This is also true of arbitrators and administrative law judges. In *Nursing Home*, 88 Lab. Arb. 681 (1987) (Sedwick, Arb.), an arbitrator upheld the termination of a nursing home employee with AIDS and rejected the application of CDC guidelines because they were too risk-tolerant.

299. See *American Dental Ass’n v. Martin*, 984 F.2d 823, 827 (7th Cir. 1993).

In addition to evoking the same miasmatic theory of contagion that has been invoked throughout history to justify unwarranted restrictions on PWIDs,³⁰⁰ this pejorative characterization is at odds with the scientific evidence showing an extremely low probability that patients will transmit HBV or HIV to HCWs.³⁰¹ Additionally, Judge Coffey's dissent suggests that the risk of transmission from infected dentists to patients and co-workers justifies the disclosure of employee test results following an exposure incident to employers and prospective patients.³⁰² However, during the fifteen years of the AIDS epidemic, there has been only one inconclusive case of HIV transmission from an infected dentist to a patient, and none from a dentist to a co-worker.³⁰³ Additionally, there have been no documented cases of HBV transmission from dentist to patient in the past ten years.³⁰⁴

In light of judges' deference to OSHA determinations and courts' aversion to accepting any risk of contagion in environments where contact with body fluids regularly occurs, solutions to the problems of irrationality and inequity in OSHA contagion standards are best sought through administrative reforms rather than judicial review.

B. Administrative Reforms

Given the political, procedural, and substantive constraints that undermine OSHA's ability to develop contagion standards that are rational

300. See MARY DOUGLAS, *RISK AND BLAME: ESSAYS IN CULTURAL THEORY* 113-15 (1992):
Miasma is not a scientific theory, it is not alternative science, but it works like a causal theory about transmission of infection, a basis for prediction and explanation, a guide for action. . . .

. . . .
. . . The mere physical presence of the unwanted Other is dangerous. Their use of the same space and times and their breathing the common air is a menace to the rest of the community. . . .

See also Paul Slack, *Responses to Plague in Early Modern Europe: The Implications of Public Health*, 55 SOC. RES. 433, 437 (1988):

[M]iasma could also be transported—in the clothes, bedding, baggage of infected people, or on their persons. It could be picked up from the proximity of the sick and absorbed through the pores of the healthy. Theories of miasma and contagion were thus combined . . . The sick and anything connected with them should be avoided.

301. See *supra* note 289. For an analysis of judicial opinions involving AIDS, see Michael C. Musheno et al., *Court Management of AIDS Disputes: A Sociolegal Analysis*, 16 LAW & SOC. INQUIRY 737, 767 (1991) (use of emotionally laden language to describe people with AIDS reflects cultural bias and fear of AIDS felt by judges possessing limited knowledge).

302. See *Martin*, 984 F.2d at 840-43.

303. See *Occupational Exposure to Bloodborne Pathogens*, 56 Fed. Reg. 64,004, 64,020-21 (1991) (codified at 29 C.F.R. § 1910.1030).

304. Transmission of HBV from dentists to patients has not been reported since 1987. See Centers for Disease Control and Prevention, *Recommended Infection-Control Practices for Dentistry*, *supra* note 72, at 2.

and equitable, it has been argued³⁰⁵ that responsibility for risk reduction is best left to the CDC, state and local health departments, professional self-regulation, and market forces.³⁰⁶ The recent history of TB in the United States, however, illustrates the danger of exclusive reliance on this system. The failure of hospitals and other facilities in which there is a high risk of TB transmission to comply with voluntary guidelines was a significant factor in the increased incidence of this disease generally.³⁰⁷ Moreover, high rates of employer noncompliance with voluntary infection controls continued even after highly publicized outbreaks of MDR-TB in institutional settings and the deaths of employees.³⁰⁸

Additionally, even a cursory analysis of a market approach to risk reduction reveals that this strategy has serious shortcomings in the context of contagion.³⁰⁹ The linchpins of such an approach are the availability of accurate information about existing risk levels and the existence of free choice on the part of employees and consumers.³¹⁰ According to this theory, employees and consumers, if armed with accurate information about a particular setting's riskiness, can demand a "fair" monetary premium for exposure to high levels of risk or "choose" to avoid a setting altogether, thereby creating an incentive for risk reduction by the institution.³¹¹ However, workers and consumers do not have access to accurate information

305. See *Martin*, 984 F.2d at 847-48 (Coffey, J., concurring in part, dissenting in part).

306. The obligations of professional organizations do not extend to the public as a whole, but rather to their members, who may or may not view protecting the public from contagion as a priority. For example, despite the increasing threat from emerging and re-emerging infectious diseases, the American Hospital Association ("AHA") eliminated its infection control division in response to members' demand that greater organizational resources be focused on the changing nature of the health care system. See 4 BNA HEALTH L. RPTR. 1832 (1995).

307. "The transmission of TB in health care facilities has been primarily caused by incompetent implementation of recommended TB infection control measures." Draft Guideline for Infection Control in Health Care Personnel, 1997, 62 Fed. Reg. 47,276, 47,288 (1997). See also Gostin, *supra* note 18, at 79 (hospital noncompliance with CDC guidelines responsible for outbreaks of TB among patients).

308. An OSHA study found that only 29% of high-risk facilities inspected between 1992 and 1994 had respiratory protection programs for preventing occupational TB. See *High-Risk Facilities Not Fully Complying with OSHA TB Guidance, Study Finds*, 5 Health L. Rep. (BNA), at 633, 633 (Apr. 25, 1996). This study lends support to Professor Howard Latin's argument that there is little reason to believe that industries will, as a general matter, voluntarily adopt risk reduction measures that involve large capital outlays. See Howard Latin, *Ideal Versus Real Regulatory Efficiency: Implementation of Uniform Standards and Fine-Tuning Regulatory Reforms*, 37 STAN. L. REV. 1267, 1293 (1985).

309. For a discussion of market approaches to regulating occupational risks, see Elinor P. Schroeder & Sidney A. Shapiro, *Responses to Occupational Disease: The Role of Markets, Regulation, and Information*, 72 GEO. L.J. 1231 (1994).

310. See *id.* at 1237 (efficient distribution of risk of occupational disease requires that employers and employees have complete and equal information about level of risk).

311. See McGarity & Shapiro, *supra* note 213, at 605 (amount of wage premium sought by employees for hazardous work a function of knowledge of existing risks).

about the existing risk in institutional settings. Information about the number of PWIDs in a particular institutional setting is not generally known,³¹² and information that is known is generally protected against disclosure to employees and other third parties.³¹³ Moreover, employees and consumers of services provided by high-risk facilities may be limited in their ability to avoid workplaces with inadequate infection controls.³¹⁴

There are also strong arguments against relying only on state and local health departments and in favor of vesting a federal agency with the authority to regulate and enforce infection controls nationally.³¹⁵ Since contagious diseases do not respect states' geographical boundaries, they pose a national danger that is properly within the ambit of the federal government's responsibility. Additionally, state regulation alone is not likely to control the spread of contagion, because individual states do not make risk reduction a priority until the number of cases of infection among their residents reaches a critical mass.³¹⁶ Thus, the migratory nature of contagion necessitates a national perspective and strategy, as well as the authority to implement enforceable regulations in states where the risk is already high (in order to reduce it) and in states where the risk is low but significant (to prevent it from increasing).

However, the current allocation of responsibility among OSHA, the CDC, and state and local health departments for developing and enforcing workplace contagion regulations is irrational and duplicative. To better allocate authority between the federal government and the states, the Act's

312. Accurate data on the risk of contagion in an institutional setting can only be obtained through mandatory testing and disclosure.

313. Given the likelihood of discrimination against PWIDs and perceived PWIDs, it is not desirable for this information to be readily available to employees and other third parties.

314. Patients, for example, cannot readily avoid hospitals in which there is an unreasonably high risk of contagion, particularly if they are seeking care for emergency conditions. Additionally, it is questionable whether employees in many high-risk institutions, such as hospitals, homeless shelters, and prisons, have the bargaining power needed to obtain wage premiums for exposure to high levels of contagion, or job mobility if such efforts prove unsuccessful. See Schroeder & Shapiro, *supra* note 309, at 1241 (inability of many workers to leave risky jobs defeats wage premium theory); McGarity & Shapiro, *supra* note 213, at 607 (workers without job mobility have no bargaining power to obtain wage premium for hazardous work).

315. See *American Dental Ass'n v. Martin*, 984 F.2d 823, 848 (7th Cir. 1993) (Coffey, J., concurring in part, dissenting in part) (arguing that state agencies should regulate infection control in health care facilities).

316. For example, despite small but steady increases in TB cases in New York City during the late 1970s and 1980s, city and state public health officials did not focus on the problem until it reached crisis proportions in the early 1990s. See Karen Brudney & Jay Dobkin, *Resurgent Tuberculosis in New York City*, 144 AM. REV. RESPIRATORY DISEASES 745, 748 (1991) (analyzing history of local public health officials' failure to make adequate commitment to strategies for controlling resurgence of TB in 1980s). However, this problem was due in part to the failure of the federal government to provide adequate financial support for state TB control efforts. See *id.*

Savings Clause³¹⁷ should, consistent with Justice Souter's dissenting opinion in *Gade*, be amended to provide that an OSHA contagion standard does not preempt state laws and regulations pertaining to the same disease, unless compliance with both is impossible.³¹⁸ This amendment would permit states to supplement OSHA contagion standards with additional or more stringent infection controls, and to retain authority to regulate subjects about which an OSHA standard is silent, such as civil rights and liberties issues affecting PWIDs, perceived PWIDs, and employees.

Additionally, it is grossly inefficient for OSHA to use standard-setting as a remedy for employer noncompliance with CDC guidelines. Instead, OSHA should address noncompliance by aggressively enforcing CDC guidelines pursuant to the Act's General Duty Clause and existing regulations requiring employers to provide personal protective equipment and respirators whenever necessary to protect employee health.³¹⁹ Advance notice by OSHA of its intent to enforce CDC guidelines pursuant to these provisions should be sufficient to satisfy employers' due process rights.³²⁰

To achieve early and widespread compliance with new CDC guidelines, substantial OSHA resources should be devoted to enforcing recommendations shortly after they are issued. To facilitate OSHA's enforcement of its guidelines, the CDC should use language that lends itself to this endeavor, such as using mandatory rather than permissive language to describe employer obligations. Industries in which workers and others face the greatest risk of exposure to contagion, such as health care facilities,

317. Currently, the Savings Clause states that the Act does not supersede or affect workers' compensation laws; common law or statutory rights, duties, or liabilities under any law with respect to injuries, diseases, or deaths in the workplace; and state laws on occupational safety and health issues about which no federal standard is in effect. See 29 U.S.C. §§ 653(b)(4), 667(a) (1994).

318. See *Gade v. National Solid Wastes Management Ass'n*, 505 U.S. 88, 117 (1992) (Souter, J., dissenting) ("preemption will occur only when actual conflict between a federal regulation and a state rule renders compliance with both impossible").

319. See 29 C.F.R. § 1910.132(a) (1996) (employers must provide employees with personal protective equipment if necessary to protect against recognized hazard); 29 C.F.R. § 1910.134(a)(2) (1996) (employers must provide respirators if needed to protect employee health). The chief disadvantage of relying on the General Duty Clause to reduce the risk of occupational infection is that OSHA bears significant litigation burdens in contested cases. Specifically, in such cases, OSHA must prove, among other things, the existence of a recognized hazard at the particular workplace. See *Bunge Corp. v. Secretary of Labor*, 638 F.2d 831, 835 (5th Cir. 1981). However, this burden can be readily met in cases involving industries that are the subject of CDC infection control guidelines. See *Secretary of Labor v. Megawest Fin. Inc.*, 1995 WL 383233, at *9 (O.S.H.R.C. June 19, 1995) (CDC publication warning employers about homicides in the workplace relevant to determining whether workplace violence is a recognized hazard under the General Duty Clause); *Secretary of Labor v. ARA Living Centers of Texas, Inc.*, 1990 WL 358197 (O.S.H.R.C. Dec. 5, 1990).

320. See *ARA Living Centers*, 1990 WL 358197, at *5 (notices issued by OSHA and the Department of Health and Human Services of intent to enforce CDC infection control guidelines sufficient to afford due process to employer).

should be targeted for early inspection.³²¹ Inspections, citations, and penalties should be highly publicized to maximize the general deterrence effect.³²²

OSHA should develop entirely new contagion standards only if CDC guidelines are facially inadequate to reduce workers' risk to insignificant levels, or only if a highly publicized and aggressive federal campaign to enforce CDC guidelines does not achieve acceptable compliance levels after a reasonable period of time. If new contagion regulations are needed, OSHA should develop standards for each noncompliant industry, rather than proffering a generic rule.³²³

These criteria for OSHA standard setting in the context of workplace contagion would alleviate a number of current problems. First, they would more rationally allocate OSHA's limited standard-setting resources by ensuring that this expensive and protracted process is invoked only when less costly and more expeditious methods for regulating workplace contagion have proved inadequate. Second, they would provide an incentive for employers to comply voluntarily with CDC guidelines by reserving OSHA contagion standards, and the agency's enforcement regime, for the chronically noncompliant. Third, when standard-setting must be undertaken, its length and complexity would be reduced because fewer industries and workers would be subject to new standards. This, in turn, would reduce the number of industries and workers for which OSHA would have to perform risk assessments, cost-benefit analyses, and regulatory impact evaluations.³²⁴ Finally, the proposed criteria would reduce OSHA's need to utilize generic rulemaking and to rely upon exaggerated and imprecise risk assessments that

321. Additionally, workers should be encouraged to report violations of CDC standards to OSHA. Section 660(c)(1) of the Act protects employees against retaliation for reporting hazardous workplace conditions. See *Marshall v. Commonwealth Aquarium*, 469 F. Supp. 690 (D. Mass. 1979) (employer violated Act by terminating employee who reported health hazard to NIOSH).

322. A number of studies have shown that OSHA inspections and penalties have both a specific and general deterrence effect. See Ann P. Bartel & Lacy Glenn Thomas, *Direct and Indirect Effects of Regulation: A New Look at OSHA's Impact*, 28 J.L. & ECON. 1, 25 (1985) (OSHA enforcement significantly affects industry violation rates); Wayne B. Gray & John T. Scholz, *Does Regulatory Enforcement Work? A Panel Analysis of OSHA Enforcement*, 27 LAW & SOC'Y REV. 177, 198 (1993) (22% decline in workplace injuries in firms inspected after three years); John T. Scholz & Wayne B. Gray, *OSHA Enforcement and Workplace Injuries: A Behavioral Approach*, 3 J. RISK & UNCERTAINTY 283, 302 (1990) (finding that increased OSHA enforcement has significant specific and general deterrence effects); W. Kip Viscusi, *The Impact of Occupational Safety and Health Regulation*, 17 RAND J. ECON. 567, 578 (1986) (finding significant effect on lost-workday incidence data). But see John W. Ruser & Robert S. Smith, *Reestimating OSHA's Effects: Have the Data Changed?*, 26 J. HUM. RESOURCES 212, 234 (1991) (finding little evidence that OSHA inspections in early 1980s reduced lost workday rates).

323. For a discussion of the problems associated with generic standards for workplace contagion, see *supra* Part IV.D.

324. See discussion *supra* Part II.B.

may increase discrimination against PWIDs and perceived PWIDs.

OSHA's implementation of certain procedural reforms and its adherence to several substantive principles would also serve to reduce the irrationalities, inequities, and unintended consequences that currently attend the development of new standards. As a threshold matter, OSHA should not rely on union petitions to determine priorities in the regulation of workplace contagion. Rather, OSHA should set its own regulatory priorities in accordance with disease surveillance data to ensure that it intervenes to protect workers from significant microbial threats at the beginning of outbreaks, rather than at the middle or end.

Additionally, to ensure that new standards are equitable and do not enhance worker safety at the expense of the public health or unduly restrict civil rights, OSHA's deliberative process must be made more inclusive of public health and civil rights perspectives. OSHA's current practice of relying on public comment³²⁵ and outside advisors for this input is not adequate.³²⁶ Instead, the OSHA work group responsible for contagion standards should be expanded to include a public health and civil rights expert.³²⁷ Also, evaluations of the impact of proposed standards on the public

325. Generally, public participation in rulemaking is an inadequate mechanism for protecting the transcendent rights and liberties of affected minority groups, which are not properly subject to majority rule. While protecting rights and liberties is traditionally the bailiwick of the courts, it is more expeditious to include persons with minority perspectives in the rulemaking process than to rely upon judicial review. Additionally, as previously stated, while judges have effectively protected the rights of PWIDs in contexts in which there is virtually no risk of microbial transmission, their apparent inability to accept any risk in settings where contact with body fluids occurs militates in favor of vesting responsibility for regulating the risk of contagion in these settings with agency experts, who are less prone to heuristic-based risk assessments. See Paul Slovic et al., *Rating the Risks*, in READINGS IN RISK, *supra* note 273, at 61, 673 (experts' perception of risk closely corresponds to frequency of death, whereas lay perception of risk based on dread and catastrophic potential). For divergent perspectives on the desirability of increased public participation in rulemaking, see K.S. SHRADER-FRECHETTE, *RISK AND RATIONALITY: PHILOSOPHICAL FOUNDATIONS FOR POPULIST REFORMS* (1991) (society's decisions about risk acceptability ought to be made through democratic processes); Frank B. Cross, *The Risk of Reliance on Perceived Risk*, 3 RISK 59, 66 (1992) (populist process for making determinations of risk acceptability entrenches cultural biases of majority and is disadvantageous to minority groups).

326. For a general analysis of the advantages and disadvantages of the outsider advisor model, see McGarity, *supra* note 204, at 97-99.

327. Alternatively, when promulgating a new contagion standard, OSHA could appoint an advisory committee that includes persons with public health and civil rights expertise. See 29 U.S.C. § 656(b) (1994). The statute mandates that such an advisory committee have no more than 15 members, including one or more designees of the Secretary of HHS, at least one representative of a state health and safety agency, an equal number of employee and employer representatives, and other persons with expertise in the area, provided their number does not exceed the number of representatives from federal and state agencies. See *id.* OSHA did not appoint an advisory committee to assist it with the development of standards for a considerable period of time. See Shapiro & McGarity, *supra* note 66, at 35 and n.200) (OSHA abandoned appointment of advisory committees since 1976 because employee and employer representatives could rarely reach agreement and, as a

health and civil rights should be routinely performed as part of OSHA's regulatory impact analysis process, and these assessments should be included in the record.³²⁸

Adherence to several substantive principles would enhance the rationality and fairness of OSHA's contagion standards. As previously stated, once OSHA determines that a risk is significant, the principles of economic and technological feasibility are the only constraints on the agency's standard-setting pursuant to section 6(b)(5) and its selection of particular risk reduction measures.³²⁹ However, since adverse effects on civil rights and the public health are no less antithetical to rational regulation of workplace contagion than economic hardship to affected industries, standards with such effects should be similarly regarded by OSHA administrators as not feasible and violative of section 6(b)(5).³³⁰ Courts, too, should apply this interpretation of the feasibility requirement when reviewing OSHA contagion standards, irrespective of the petitioner's identity.³³¹

In particular, OSHA contagion standards should be regarded as not feasible if they seek to reduce workers' risk of occupational infection with a contagious disease to a level that is lower than that tolerated for other workplace hazards.³³² Additionally, contagion regulations should not be

result, were unable to complete their work within the 270-day statutory deadline). Recently, however, it appears to be more receptive to invoking this process. *See, e.g.*, Notice, 62 Fed. Reg. 34,313 (1997) (seeking nominations for advisory committee on construction safety and health). OSHA observers are divided on the question of whether the agency's standard setting process would generally benefit from increased reliance upon advisory committees. *See Shapiro & McGarity, supra* note 66, nn.204-05 (discussing conflicting views).

328. While this function could be performed by OSHA's general counsel staff, it is preferable that it be contracted out or performed by the Civil Rights Division of the Department of Justice. OSHA's general counsel staff have little experience in civil rights law, have a vested interest in a proposed standard, and are likely to be oriented toward ensuring only that a standard complies with minimum statutory criteria. For an analysis of the role and limits of administrative agencies' general counsels, *see McGarity, supra* note 204, at 85 (agency general counsels do not often insist that agency go beyond minimum criteria of statute unless required by another statute).

329. *See National Grain & Feed Ass'n v. OSHA*, 866 F.2d 717, 728 (5th Cir. 1989) (significant risk and feasibility requirements restrict OSHA's standard setting authority under 6(b)).

330. Additionally, standards that unduly infringe upon civil rights or adversely impact the public health arguably violate § 652(8) of the Act, which restricts OSHA to mandating risk reduction measures that are "reasonably necessary or appropriate[.]" 29 U.S.C. § 652(8) (1994) (emphasis added).

331. To ensure that all standards, and not just those that are subjected to judicial review, are feasible from the standpoint of the public health and civil rights, this assessment must be made in the first instance by OSHA regulators as part of the standard-setting process. Moreover, relying on judicial remands to OSHA to consider these interests is undesirable because it would even further delay the implementation of contagion standards.

332. In *UAW v. Johnson Controls, Inc.*, 499 U.S. 187, 220 (1991) (White, J., concurring), Justice White observed that a fetal-protection policy that barred women from certain jobs is discriminatory if it seeks to achieve a risk avoidance level that is higher than other risk levels tolerated by the employer.

considered feasible if they permit employers to discriminate against PWIDs in the absence of a finding of significant risk that is individualized and scientifically based.³³³

Concerns about equity, in addition to determining risk acceptability, must guide OSHA's choices among alternative risk reduction measures. In general, when selecting among competing regulatory options to reduce a significant risk to workers' health, OSHA should, when possible, choose the measure that protects all relevant interests—employee health, public health, and the civil rights of third parties—rather than only employees' interests. For example, requiring the installation of ultraviolet lights, which kill or inactivate airborne M. TB, throughout homeless shelters would serve the interests of both employees and residents without imposing an inordinate financial burden on employers.³³⁴ Measures such as this, which serve the interests of employees, the infected, and the public, will withstand judicial review unless they threaten affected industries' survival.³³⁵

When a solution that satisfies the interests of these parties is inconceivable or not technologically or economically feasible, OSHA's choices among competing rights and interests should be governed by the concept of reasonable accommodation and the related notion of less restrictive alternatives. Workplace contagion standards that infringe upon PWIDs' privacy rights ought to be deemed feasible only if there is a compelling rationale and no less restrictive alternative. Additionally, contagion regulations should not be considered feasible if they restrict

Similarly, an OSHA standard is unduly discriminatory if it sets a risk avoidance level for workplace contagion that is higher than the level for other risks that are tolerated. The imposition of measures that seek to reduce the risk of contagion below the level of common risks encountered in daily life has also been criticized as cost-ineffective. See Gostin, *supra* note 18, at 79-80.

333. The Preamble to the Department of Justice Americans with Disabilities Act regulations provides:

The determination that a person poses a direct threat to the health or safety of others may not be based on generalizations or stereotypes about the effects of a particular disability. It must be based on an individualized assessment, based on reasonable judgment that relies on medical evidence or the best available objective evidence[.]

28 C.F.R. pt. 35, app. A (1996). See also *United States v. Morvant*, 898 F. Supp. 1157 (E.D. La. 1995) (holding that dentist's refusal to treat HIV-infected patients violated the Americans with Disabilities Act because dentist did not perform individualized examinations to determine whether they posed a direct threat that could not be eliminated by use of universal precautions).

334. There is evidence that installing engineering controls throughout homeless shelters reduces occupational infection among employees from contact with residents whose infection is not detected during admission procedures. See Edward A. Nardell, *Tuberculosis in Homeless, Residential Care Facilities, Prisons, Nursing Homes, and Other Close Communities*, 4 SEMINARS RESPIRATORY INFECTIONS 206, 212 (1989) (reporting drop in skin test conversions among homeless shelter staff after installation of UV infection controls).

335. See *United Steelworkers of America v. Marshall*, 647 F.2d 1189, 1265 (D.C. Cir. 1980) (OSHA standard may be feasible even if financially burdensome to some companies).

PWIDs' rights despite the existence of a less restrictive regulatory alternative that achieves a comparable level of worker safety. This approach would, for example, generally require OSHA to mandate the installation of engineering controls and employee vaccinations if they are safe, effective, and affordable rather than permit employers to exclude or segregate PWIDs.³³⁶ Indeed, in *Kohl v. Woodhaven Learning Center*,³³⁷ the Eighth Circuit stated that all at-risk staff members of a mental health facility needed to be vaccinated against HBV to reasonably accommodate a resident who was an active carrier of the disease.³³⁸

Finally, as previously stated, when regulations leave employers or employees to their own devices in making risk assessments, or when they do not mandate anti-discrimination education for employers and employees, increased discrimination against members of historically disfavored groups is a foreseeable unintended consequence. Therefore, feasibility under the Act must also be judged by whether workplace contagion standards include adequate precautionary measures to ensure that day-to-day decisions about risk acceptability and risk reduction are equitable. Specifically, contagion standards must include explicit, detailed, individualized, and scientifically based criteria for determining risk acceptability³³⁹ and they must require that employers and employees receive anti-discrimination education.³⁴⁰

336. While there currently is no highly effective TB vaccine, the CDC nevertheless recommends that HCWs in some settings with high percentages of TB patients consider vaccination. See Centers for Disease Control, *BCG Vaccine*, *supra* note 4, at 10-11. Once an effective and safe vaccine against TB is developed, its use by employees should be mandated by OSHA to protect employees and reasonably accommodate people with TB.

337. 865 F.2d 930 (8th Cir. 1989).

338. See *id.* at 941.

339. In this regard, OSHA has stated that its TB Standard "allows any method that assures that persons with the appropriate symptoms are identified as suspect cases." Occupational Exposure to Tuberculosis, 62 Fed. Reg. 54,160 (1997) (to be codified at 29 C.F.R. pt. 1910) (proposed Oct. 17, 1997). In permitting employers to develop their own criteria for identifying individuals with suspected infectious TB, OSHA's TB Standard fails to adequately assure that risk acceptability decisions will be made in a non-discriminatory manner.

340. Neither the BBPs nor the TB Standard satisfies this criterion, because anti-discrimination training for employees is not required.

