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Pediatric Environmental Health Hazards and the Role of Government in Adopting Standards to Protect Children

JENNIFER BROWN*

“In the late 19th and 20th centuries, miners would send canaries into untested mines to determine the safety of the air quality. If the canaries died, the environment was known to be unsafe for humans. . . . [O]ur children have become the modern day canaries.”¹

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1. See Joy E. Carlson & Katharine A. Sokoloff, *Environmental Hazards and Children: Policy Issues and Implications*, 11 No. 11 HEALTHSPAN 8 (1994) [hereinafter Carlson & Sokoloff, *Environmental Hazards*].

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I. Introduction

Despite the fact that children are particularly vulnerable to environmental hazards such as lead, polychlorinated biphenyls (PCB's), asbestos, pesticides, and air pollution, until recently they were afforded very little governmental protection. However, in the past five years, there has been a great deal of national activity addressing this issue. This Comment provides an overview of the current pediatric environmental health initiatives being developed at the national level and illustrates how numerous research endeavors, conferences, newly formed federal offices, legislation and policies have not only brought this issue to the forefront of national attention, but have helped usher in a new era of environmental protection which addresses the well-being of children. Although there are new federal policies that consider child-specific susceptibility to environmental pollutants and that require agencies to evaluate the potential effects of their rules on the health and safety of children, there is more that needs to be done at the federal level to ensure that children are adequately protected. Specifically, legislation is needed that would *require* federal agencies to ensure that pollution limits are set at levels that protect children. This Comment proposes that the Children's Environmental Protection Act of 1997 (CEPA)² is one feasible means to strengthen environmental standards to protect children.

Part II of this Comment identifies the problem: children are especially vulnerable to environmental hazards due to their biological sensitivities, unique dietary habits and distinctive behavioral patterns, and yet are frequently not factored into the risk assessment process when it comes to environmental regulations. As a result, risk assessments fall short of creating environmentally safe levels of pollutants for children. Part III examines the current national landscape in the field of pediatric environmental health and illustrates

2. S. 599, 105th Cong. (1997) [hereinafter CEPA].

that in the last several years, there has been a growing wave of developments in this field. As a result of these national endeavors, some legislation and policy was passed to provide greater protection for children from environmental pollutants. In addition, several important governing entities were created to address pediatric environmental health concerns. However, as Part IV points out, much of this national action may prove to be politically transitory. A closer examination of two of the most significant accomplishments of the national developments in pediatric environmental health, the U.S. Environmental Protection Agency (EPA) policy on Evaluating Health Risks to Children³ and Executive Order No. 13,045,⁴ reveals that much of the newly-created policy may lack the "legal teeth" necessary to assure that children are adequately protected from environmental pollutants in the future. Part V suggests that one plausible solution to this concern is the Children's Environmental Protection Act of 1997.⁵ Scrutiny of this legislation highlights its strengths, as well as its potential weaknesses. However, while there are several shortcomings to this Act, this Comment argues that overall, by establishing in statute the needed "legal teeth" to protect children's health, the Children's Environmental Protection Act may serve to cement into law many of the current national pediatric environmental health initiatives. In this way, greater environmental protection for the health of children could be guaranteed in the future.

II. Identification of the Problem

A. Children Are Particularly Vulnerable to Environmental Hazards

In the realm of pediatric health, the fundamental maxim, "children are not just little adults" has long highlighted the fact that children possess unique structural and functional

3. See EPA, *Policy On Evaluating Health Risks to Children* (visited Oct. 9, 1997) <<http://www.epa.gov/ordntrnt/ORD/spc/memohlth.htm>> [hereinafter *EPA Policy*].

4. See Exec. Order No. 13,045, 62 Fed. Reg. 19,885 (1997) [hereinafter *Executive Order*].

5. See S. 599, 105th Cong. (1997).

qualities which profoundly distinguish them from adults and make them deserving of extra protection.⁶ Today, it is this powerful maxim that underscores the development of pediatric environmental health initiatives.

1. Biological Sensitivities

Children are particularly at risk from environmental hazards for a number of reasons. A 1993 report by the National Academy of Sciences noted, "Because they are growing and developing, infants and children are different from adults in composition and metabolism as well as in physiological and biochemical processes."⁷ As growing, developing organisms, children are often exposed to environmental toxins in greater proportions than adults, yet they are unable to process them as easily.⁸ Because children's metabolic pathways are immature compared to those of adults, it is more difficult for them to detoxify chemicals.⁹ As one author explained with regard to children's unique sensitivities: "[t]heir exposures are different, their pathways of absorption are different, their tissue distribution is different, their ability to biotransform and eliminate chemicals is different, and their bodies respond differently to environmental chemicals and radiation."¹⁰ For instance, while radiation therapy is often used to treat brain tumors in adults, it is avoided in infants because of the profound detrimental effects on the young, developing nervous system.¹¹ Likewise, since children's nervous systems are not fully developed, they are much more sensitive to toxins such as metals, solvents, insecticides, and

6. See NATIONAL ACADEMY OF SCIENCES, *PESTICIDES IN THE DIETS OF INFANTS AND CHILDREN*. WASHINGTON: NATIONAL ACADEMY PRESS 3 (1993) [hereinafter NATIONAL ACADEMY OF SCIENCES].

7. NATIONAL ACADEMY OF SCIENCES, *supra* note 6, at 23.

8. See Carlson & Sokoloff, *Environmental Hazards*, *supra* note 1, at 9.

9. See AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY, U.S. DEP'T OF HEALTH AND HUMAN SERVICES, *HEALTHY CHILDREN-TOXIC ENVIRONMENTS 3-4* (1997) [hereinafter ATSDR].

10. See Cynthia F. Bearer, *How are Children Different from Adults?* 103 ENVTL. HEALTH PERSP. SUPP. 6, 10 (1995) [hereinafter Bearer].

11. See *id.*

certain gases than are adult brains.¹² For example, because children are more sensitive than adults to toxins such as lead, levels at which lead concentrations in blood become a concern are substantially lower for children than they are for adults.¹³ On the whole, children are at greater risk than adults for exposure to and possible illness from environmental hazards due to their decreased ability to detoxify substances, and greater sensitivity during development and growth.¹⁴ Thus, with immature body organs and tissues, developing children are simply more susceptible than adults to environmental hazards.¹⁵

2. Children's Unique Consumption Patterns/Dietary Habits

Children receive greater exposure to environmental pollutants present in air, food and water because they inhale or ingest more air, food and water as a percentage of their body weight than adults do.¹⁶ Because children are growing and developing, their caloric requirement is higher, leading them to consume more food per body weight than do adults.¹⁷ For example, children in the first six months of life drink seven times as much water per pound as the average American adult, and children one through five years of age eat three to four times as much food per pound of body weight as average American adults.¹⁸ Similarly, because of their greater surface-to-volume ratios, the metabolic rate of children is higher, and thus their oxygen consumption is greater.¹⁹ For example, a resting infant takes in twice as much air as an adult,²⁰

12. See Carlson & Sokoloff, *Environmental Hazards*, *supra* note 1, at 9.

13. See Bearer, *supra* note 10.

14. See generally, Carlson & Sokoloff, *Environmental Hazards*, *supra* note 1.

15. See *id.*

16. See Lawrie Mott, *The Disproportionate Impact of Environmental Health Threats on Children of Color*, 103 ENVTL. HEALTH PERSP. SUPP. 6, 33 (1995).

17. See Bearer, *supra* note 10, at 8.

18. See ATSDR, *supra* note 9, at 3.

19. See Bearer, *supra* note 10, at 8.

20. See *id.*

making his exposure to air pollutants significantly higher.²¹ In addition, the types of foods children eat also put them at greater health risks from environmental toxins than adults.²² For instance, since a greater portion of children's diets are composed of fruits and vegetables compared to adult's diets, children are exposed to higher levels of pesticides and chemicals in their food.²³ In fact, the National Academy of Sciences report estimated that fifty percent of all the pesticides a person ingests in a lifetime is ingested in the first five years of life.²⁴ Consequently, because children ingest more air, food, and water per unit of body weight than adults do, and also consume more types of foods that contain high levels of environmental toxins, they are inevitably more susceptible to environmental health problems.²⁵

3. Children's Distinct Behavioral Tendencies

The unique characteristics and behavioral patterns of children also expose them to distinct environmental hazards. For example, children's natural curiosity puts them at a greater risk than adults of exposure to environmental hazards because children often explore by touching, tasting and moving.²⁶ Thus, toxic residues on carpets, floors, furniture, grass, soil, and playground equipment may be sources of toxic exposure for children.²⁷ In addition, because children's play activities are often closer to the ground where household chemicals, pesticides, and other environmental toxins accumulate, and because they often engage in hand-to-mouth behavior, a child's exposure is substantially greater than an

21. See *id.* Not surprising, then, is the fact that the 40% increase in the incidence of childhood asthma is linked to air pollution. See Sen. Barbara Boxer, Statement, Children's Environmental Protection Act, April 16, 1997, at 1.

22. See NATIONAL ACADEMY OF SCIENCES, *supra* note 6, at 4.

23. See *id.* at 13.

24. See *id.*

25. See generally, *id.*

26. See Carlson & Sokoloff, *Environmental Hazards*, *supra* note 1, at 10.

27. See Lynn R. Goldman, *Children - Unique and Vulnerable. Environmental Risks Facing Children and Recommendations for Response*, 103 ENVTL HEALTH PERSP. SUPP. 13, 16 (1995).

adult's to any toxic substances that are present in the soil, water, food, or air.²⁸ It has also been suggested that children spend more time outside than adults, and hence face a potentially greater danger to air pollution.²⁹ Overall, children's natural curiosity and tendency to explore leave them open to health risks adults can more easily avoid.

B. The Failure of Risk Assessments to Include Children

Despite the clear vulnerability of children to environmental hazards, children are not regularly included in risk assessment processes; in fact, most environmental regulations are based on exposure data of adult males.³⁰ Moreover, risk assessments which assume that males are appropriate surrogates for the whole population fail to take into account that a child, on average, weighs less than the average adult male.³¹ Consequently, risk assessments may fail to identify safe levels of environmental pollutants for children.³² For example, the 1993 National Academy of Sciences report explained that when EPA measures the risks of cancer with regard to pesticides, it assumes that the risk for a given dose is the same for all ages, despite the fact that exposure to high levels of carcinogenic pesticides may occur during childhood.³³ Consequently, by focusing on the "average" person, EPA ignores one of the most vulnerable and sensitive groups of the population, children. As one author pointed out:

"While some risk management decisions focus on particular populations, many decisions supporting national regulatory initiatives focus on the average person who would have the average susceptibility to pollutant exposure. This

28. See ATSDR, *supra* note 9, at 3.

29. See Carlson & Sokoloff, *Environmental Hazards* *supra* note 1, at 9.

30. See Joy E. Carlson & Katie Sokoloff, *Preventing Child Exposures to Environmental Hazards: Research and Policy Issues*, 103 ENVTL. HEALTH PERSP. SUPP. 3 (1995) [hereinafter Carlson & Sokoloff, *Child Exposures*].

31. See Samara F. Swanston, *Race, Gender, Age, and Disproportionate Impact: What Can We Do About the Failure to Protect the Most Vulnerable?* 21 FORDHAM URB. L.J. 577, 597 (1994) [hereinafter Swanston]. Samara F. Swanston is a Professor at Pace University School of Law, White Plains, New York.

32. See Carlson & Sokoloff, *Child Exposures*, *supra* note 30, at 3.

33. See NATIONAL ACADEMY OF SCIENCES, *supra* note 6, at 336.

focus is apparently based upon belief that the exposed population is of uniform susceptibility and/or the belief that vulnerable populations are small. Risk assessment models are often based upon the same erroneous assumption."³⁴

The answer may be that the government should mandate specific regulatory action to require consideration of vulnerable populations.³⁵

III. Pediatric Environmental Health Becomes a National Issue

A. National Research Initiatives

In the last several years, there has been a growing wave of national developments in the field of pediatric environmental health that has continued to gain momentum and bring with it a number of positive changes on the national level.³⁶ In the past five years, a flood of activity at the national level has dealt with pediatric environmental health.³⁷

1. National Academy of Sciences Report

One of the catalysts for this change in national posture was the ground-breaking 1993 report issued by the National Academy of Sciences, *Pesticides in the Diet of Infants and Children*.³⁸ This report argued that because children differ from adults in susceptibility and in dietary exposure to pesticide residues, their unique characteristics should be taken into account when environmental risk assessments are con-

34. Swanston, *supra* note 31, at 590.

35. *See id.* at 595.

36. As this Comment will illustrate, in the area of pediatric environmental health, there has been a flurry of activity on the national level. As a result, national research initiatives, national legislation and policy, and national governing entities have been created.

37. Examples include the 1993 ground-breaking report issued by the National Academy of Sciences, *Pesticides in the Diet of Infants and Children*; the Food Quality Protection Act passed in 1996; Executive Order No. 13,045 (Protection of Children from Environmental Health Risks and Safety Risks issued in 1997); and EPA's newly established entity, the "Office of Children's Health Protection," formed in 1997. *See* NATIONAL ACADEMY OF SCIENCES, *supra* note 6; Executive Order, *supra* note 4.

38. *See generally* NATIONAL ACADEMY OF SCIENCES, *supra* note 6.

ducted.³⁹ The effect of this report was quite powerful since it not only helped focus national attention on pediatric environmental health issues, but further spurred national political action.⁴⁰

2. Workshops, Conferences, Literature

In the national research arena, the first workshop on children's environmental health, held in June 1993, brought together twenty-five researchers from different disciplines to merge pediatric and environmental research and helped form the basis of the first national symposium on children's environmental health held in March 1994.⁴¹ At this symposium, entitled, "Preventing Child Exposures to Environmental Hazards: Research and Policy Issues," two hundred experts on research, clinical practice, and advocacy contributed their visions and expertise, and over 100 recommendations for change in the field were generated.⁴² This endeavor was instrumental in helping "to galvanize interest in the issue on a national level."⁴³ In addition, the National Institute of Environmental Health Sciences published the research papers which were presented at the 1994 national symposium.⁴⁴ These published research papers "form the largest published collection of peer-reviewed pediatric environmental health literature."⁴⁵ Thus, for the first time, the national symposium and collected research papers brought together experts

39. *See id.*

40. For example, EPA stated in its 1996 report, *Environmental Health Threats to Children*, that it was directly responding to issues raised by the National Academy of Sciences 1993 report, *Pesticides in the Diets of Infants and Children*. *See* U.S. ENVIRONMENTAL PROTECTION AGENCY, ENVIRONMENTAL HEALTH THREATS TO CHILDREN 1 (1996). Likewise, this report is also referenced in the Children's Environmental Protection Act of 1997. *See* CEPA, S. 599, 105th Cong. § 501(a)(4) (1997).

41. *See* THE CHILDREN'S ENVIRONMENTAL HEALTH NETWORK, PUBLIC HEALTH INSTITUTE, CHRONOLOGY OF CHILDREN'S ENVIRONMENTAL HEALTH (1997) [hereinafter CHILDREN'S ENVTL. HEALTH NETWORK].

42. *See* Symposium Summary, *Preventing Exposure to Environmental Hazards: Research and Policy Issues*, CHILDREN'S ENVTL. HEALTH NETWORK (Mar. 18-19, 1994).

43. *Id.*

44. *See* ENVTL. HEALTH PERSP. SUPP. 6, September (1995).

45. *See* CHILDREN'S ENVTL. HEALTH NETWORK, *supra* note 41.

from many disciplines to discuss research and policy issues in the field of pediatric environmental health.⁴⁶

B. Legislative Action and Policy

1. Food Quality Protection Act

In 1994, the Clinton Administration swiftly responded to the National Academy of Sciences report by introducing pesticide reform legislation.⁴⁷ The legislation incorporated many of the recommendations found in the report, in particular, the proposal that tolerance levels be set low enough to protect infants and children.⁴⁸ Essentially, the legislation introduced by Clinton required amendments to both the Federal Insecticide, Fungicide and Rodenticide Act,⁴⁹ and the Federal Food, Drug, and Cosmetic Act⁵⁰ and proposed strict deadlines for getting dangerous pesticides off the market, reduction of pesticide use, and the application of one strict health-based scientific standard for all pesticides used on all foods.⁵¹ In August 1996, President Clinton signed into law the Food Quality Protection Act, which requires that children's special needs be taken into account in setting pesticide use standards.⁵² With the exception of legislation on lead, this is the first piece of environmental legislation that specifically requires that children's vulnerabilities be explicitly incorporated.⁵³

2. EPA's National Agenda to Protect Children from Environmental Health Threats

Following this landmark piece of legislation, EPA introduced its national comprehensive agenda to protect children's

46. See Carlson and Sokoloff, *Child Exposures*, *supra* note 30, at 3.

47. See EPA, *Clinton Administration Proposes Sweeping New Legislation in Pesticides and Food Safety Law*, Apr. 26, 1994, available in 1994 WL 149105.

48. See *id.*

49. 7 U.S.C. §136 (1997).

50. *Id.*

51. See *id.*

52. See U.S. ENVIRONMENTAL PROTECTION AGENCY, EPA 175-F-96-001, ENVIRONMENTAL HEALTH THREATS TO CHILDREN 7 (Sep. 1996).

53. See CHILDREN'S ENVTL. HEALTH NETWORK, *supra* note 41.

health in its first report on environmental health threats to children.⁵⁴ The report pointed out that a variety of health problems could be attributed to environmental risks such as tobacco smoke, lead poisoning, toxic waste dumps, and polluted waters.⁵⁵ To address these issues, EPA outlined a number of actions it would take, including setting public health and environmental standards that are protective of children, expanding research on children's susceptibility and exposure to environmental pollutants, addressing children's total exposure to toxic chemicals by moving beyond a chemical-by-chemical approach, and expanding its right-to-know and education efforts about children's environmental threats.⁵⁶

3. EPA's New Risk Assessment Policy

At the centerpiece of EPA's national agenda is its relatively new policy announced on October 23, 1995 (which was to take effect on November 1, 1995) to consistently and explicitly take into account the health risks of children and infants from environmental hazards when conducting environmental risk assessments.⁵⁷ Enumerating the fact that age-related differences make children more susceptible to environmental pollutants (because of their unique biological make-up, consumption patterns, and behavior),⁵⁸ EPA assured that the health risks to infants and children from hazards in the air, land, food, and water would be considered.⁵⁹ Stating, "[t]he agency is particularly concerned about safeguarding the health of infants and children, who are among the nation's most fragile and vulnerable populations,"⁶⁰ EPA promised to develop a separate assessment of risks to infants and chil-

54. See *EPA Administrator Releases New Report on Environmental Health Threats to Children*, ENVTL. NEWS, Sept. 11, 1996, available in 1996 WL 513582.

55. See *id.*

56. See *id.*

57. See *id.*

58. See discussion *infra* Part II.A.1, 2, 3.

59. See *EPA Policy*, *supra* note 3.

60. *Id.*

dren "to the degree permitted by available data in each case."⁶¹

4. Children's Environmental Protection Act

In addition to the creation of federal policies, national activity in the area of children's environmental health has also generated congressional interest in the issue. For example, in September 1996, Senator Barbara Boxer, a California Democrat and a member of the Senate Environment and Public Works Committee, introduced the Children's Environmental Protection Act of 1996 to "[h]elp protect the children of this country from the harmful effects of environmental pollutants including pesticides and other hazardous chemicals."⁶² This legislation, which requires EPA to ensure that pollution limits are set at safe levels to protect children,⁶³ proposes that EPA be required to work with the Departments of Agriculture and Health and Human Services to carry out research on the effects of environmental pollutants on children, that persons using pesticides and other substances in public areas accessible to children keep public records of their activities, and that EPA identify "the most dangerous commonly used hazardous substances and pesticides, and within one year prohibit their use" in federal properties and areas.⁶⁴ Although this legislation was not passed in 1996, in April 1997, Senator Boxer introduced the Children's Environmental Protection Act of 1997.⁶⁵ Essentially, the 1997 legislation is identical to the bill introduced in 1996 in the 104th Congress.⁶⁶ It remains to

61. *Id.*

62. *General Policy: House, Senate Members Expected to Introduce Children's Protection Bills*, 68 Daily Env't. Rep. (BNA) A-4 (Apr. 9, 1997) (quoting Sen. Barbara Boxer (D-Calif)).

63. *See id.*

64. *See id.*

65. *See id.*

66. *Compare* S. 2179, 104th Cong. (1996) and CEPA, S. 599, 105th Cong. (1997).

be seen whether or not this legislation will pass the 105th Congress.⁶⁷

5. Executive Order No. 13,045

President Clinton also took further action in the area of children's environmental health by issuing an Executive Order on Protection of Children from Environmental Health Risks and Safety Risks on April 22, 1997.⁶⁸ Essentially, the executive order directs all federal agencies to take into account the special risks and disproportionate impact that safeguards and standards have on children.⁶⁹ Among its many provisions, it established a Health Risk Task Force, whose job is to recommend and coordinate strategies to better address children's environmental health and safety within the federal government.⁷⁰ This Task Force includes representatives of the Departments of Education, Labor, Energy, Housing and Urban Development, Agriculture, Transportation, and Justice as well as the Consumer Product Safety Commission and the Occupational Safety and Health Administration.⁷¹

C. Governing Entities

1. Office of Children's Health Protection

To implement its national agenda to protect children's health from environmental threats, EPA also established the Office of Children's Health Protection in April of 1997.⁷² Among its duties, this newly created office pulls together various agency efforts in an attempt to focus attention on the environmental threats that children face, and expands fami-

67. Currently, this bill is still in the Senate Environment and Public Works Committee. Telephone Interview with David Sanderetti, Press Office, Senator Barbara Boxer's Office (Sept. 25, 1998).

68. See *Executive Order on Protection of Children from Environmental Health Risks and Safety Risk Issued April 21, 1997*, 77 Daily Env't. Rep. (BNA) E-1 (Apr. 22, 1997).

69. See Executive Order, *supra* note 4, at 19,885.

70. See *id.*

71. See *Risk Assessment: Agency Heads Drafting Plans to Implement Executive Order on Children's Health*, 98 Daily Env't. Rep. (BNA) A6 (Oct. 4, 1997) [hereinafter *Risk Assessment*].

72. See CHILDREN'S ENVTL. HEALTH NETWORK, *supra* note 41.

lies' right-to-know about environmental issues affecting children.⁷³ Philip Landrigan, a renowned expert on environmental health and pediatrics who helped produce the 1993 study by the National Academy of Sciences on pesticides and children, was named as a senior advisor for the office.⁷⁴ The office, which will have a budget of \$7.5 million during its first year,⁷⁵ has three primary areas of responsibility: regulatory, research, and outreach.⁷⁶ Essentially, it is the goal of the Office of Children's Health Protection to review existing regulations and nominate five regulations for revision to make them more protective of children, and develop procedures for ensuring that new rules incorporate children's health concerns when they are written for the first time.⁷⁷

2. Development of National Research Centers On Children's Environmental Health

In September 1997, the National Institute of Environmental Health Sciences and EPA issued a request for proposals to establish national research centers on children's environmental health based on a recommendation from the first national symposium on children's environmental health in March 1994.⁷⁸ As a result, in September 1998 the first research centers dedicated to the protection of the health of children from environmental threats were created by EPA and the Department of Health and Human Services.⁷⁹ At

73. See Browner Announces New EPA Offices to Support Children's Health, *Regulatory Reinvention and Right to Know*, ENVTL. NEWS, Feb. 27, 1997, available in 1997 WL 83193.

74. See *id.*

75. See Louis Freedberg, *EPA Making Children's Health the Yardstick for Stricter Rules*, S.F. CHRON., Feb. 28, 1997, at A4.

76. See *Children's Health: EPA Advisor Sees Limited Term for New Health Protection Office*, 5 Health Care Pol'y Rpt. (BNA) D16 (June 2, 1997).

77. See *id.*

78. See CHILDREN'S ENVIRONMENTAL HEALTH NETWORK, CHRONOLOGY, *supra* note 41.

79. See *HHS and EPA Move to Establish First-Ever Federal Research Centers to Protect Children's Health*, E.P.A. Note to Correspondents, Sept. 3, 1997, available in 1997 WL 539958. The Environmental Protection Agency and the Department of Health and Human Services allocated \$10.6 million for the establishment of "Centers of Excellence in Children's Environmental Health Research" at eight leading research institutions. See *Vice-President Gore An-*

these centers, research will be conducted on the possible environmental causes of children's illnesses and disorders.⁸⁰ As the Children's Environmental Health Network stated regarding these new research initiatives, "[t]he Centers represent the potential for child-focused research and risk assessment paradigms and research strategies that include a strong community component. They offer the hope of filling in some of the large gaps and of moving toward prevention oriented research and policies."⁸¹

3. Task Force on Environmental Health Risks to Children Takes Action

In October 1997, the Task Force on Environmental Health Risks and Safety Risks to Children met for the first time.⁸² At that meeting, the Task Force created three workgroups to develop recommendations for actions to meet the goals of President Clinton's executive order.⁸³ Currently, several workgroups are in the process of carrying out a number of important initiatives including reviewing databases of ongoing federally sponsored research to identify relevant projects, identifying new data needs, assessing the desirability of new legislation, preparing an inventory of ongoing projects that promote the goals of the executive order, developing recommendations for federal government partnerships with state and local governments, and identifying new ways to improve outreach to parents, teachers, and those who have contact with children.⁸⁴ Furthermore, it was proposed that by January 1998, a plan would be in place to ensure that federal research and regulatory agencies have access to all research funded by the government on this subject.⁸⁵

nounces New Data on Climate Change for July and Establishment of Federal Research Centers to Protect Children's Health, EPA, Aug. 10, 1998, available in 1998 WL 467879.

80. *See id.*

81. CHILDREN'S ENVTL. HEALTH NETWORK, *supra* note 41.

82. *See Risk Assessment*, *supra* note 71, at A-6.

83. *See id.*

84. *See id.*

85. *See id.*

IV. Greater Protection of Children's Environmental Health, or Just a Passing Political Phase?

A. Interest and Awareness Leads to Action

The extraordinary wave of pediatric environmental health initiatives on the federal level has not only led to greater awareness of the subject, but has helped create the impetus to better protect children from environmental threats.⁸⁶ Extensive, comprehensive national research endeavors such as the National Academy of Sciences far-reaching report, *Pesticides in the Diets of Infants and Children*, generated national interest and concern.⁸⁷ This prompted swift political action which led to the enactment of legislation and policy.⁸⁸ As one commentator noted, "[p]olitical considerations commonly influence environmental regulatory decision making and health protection agendas. Regulators quickly respond to inquiries about local environmental problems from legislators and elected officials."⁸⁹ In the case of pediatric environmental health policy, this has certainly proved true. As this Comment has illustrated, the federal government is taking numerous steps towards researching, identifying, and assessing environmental health risks to children. This effort has involved the collaboration of various federal agencies that will continue to explore and explain the effects of their rules on the health of children.⁹⁰ Such action will help ensure that regulatory agencies and the public at large remain informed of the environmental health concerns facing children which may further encourage legislative action that may be needed.

B. EPA Policy on Evaluating Health Risks to Children

One author noted that one of the chief barriers leading to the failure of EPA to adequately protect vulnerable groups is

86. See discussion *infra* Part III.

87. See *infra* pp. 8-9 and note 37.

88. See *infra* Part III.B.

89. Swanston, *supra* note 28, at 584.

90. See discussion *infra* Parts III.B.5, C.1, 2, 3.

a lack of information.⁹¹ Today, this is no longer true. As this Comment has illustrated, national research endeavors in the field of children's environmental health led to the outpouring of information and ultimately to the identification of pediatric environmental health concerns. Not surprising then is the fact that embedded in EPA's policy on Evaluating Health Risks to Children is the articulation of these concerns.⁹² Within the policy itself is a brief outline of what makes children particularly vulnerable to environmental pollutants.⁹³ Much of the summary mirrors EPA's report, *Environmental Health Threats to Children*,⁹⁴ and not only serves as a background to EPA's policy, but justifies its passage.

However, while EPA policy declares: "[i]t is the policy of the U.S. Environmental Protection Agency (EPA) to consider the risks to infants and children consistently and explicitly as a part of risk assessments generated during its decision making process," it also contains the following language in a footnote: "This document is a statement of Agency policy and does not constitute a rule. It is not intended, nor can it be relied upon, to create any rights enforceable by any party in litigation with the United States."⁹⁵ As a result, EPA is not bound by its own policy. In effect, the short but powerful footnote renounces any legally binding or enforceable right to be found. Thus, in a sense, by creating a "loophole" in its policy, EPA may be acting more politically than substantively. Consequently, EPA *may* or *may not* consistently and explicitly consider the risks to infants and children in its risk assessments since it is not *required* by law to do so. Thus, it simply remains to be seen whether or not this revision in policy is truly a concrete change in agency posture or just a passing political phase. Perhaps what is needed is the creation of an affirmative duty for all regulatory agencies to factor chil-

91. See Swanston, *supra* note 28, at 589.

92. See EPA Policy, *supra* note 3.

93. See *id.*

94. See generally, OFFICE OF THE ADMINISTRATOR, E.P.A., ENVIRONMENTAL HEALTH THREATS TO CHILDREN, EPA 175-F-96-001, (1996).

95. EPA Policy, *supra* note 3.

dren's sensitivities into their action. Such a duty would have to be created by Congressional legislation.

C. A Closer Look at Executive Order No. 13,045

Unfortunately, some of the same criticism aimed at EPA Policy on Evaluating Health Risks to Children can also be directed at Executive Order No. 13,045. On the positive side, the Order states that each federal agency, "shall make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children, and shall ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks."⁹⁶ Indeed, on its face, Executive Order No. 13,045 has the appearance of substantively altering the manner in which agencies conduct their business so that risks to children resulting from environmental hazards are consistently addressed. The Order also requires federal agencies to submit an evaluation of the environmental health and safety effects of their regulations on children with an explanation of the why planned regulations are preferable to other feasible alternatives.⁹⁷ By requiring agencies to fully explain the anticipated effects of their actions on children's health and by forcing them to justify their actions, this provision of Executive Order No. 13,045 may lead to greater agency accountability with respect to pediatric environmental health issues. Finally, the executive order's creation of an inter-agency Task Force on Environmental Health Risks and Safety Risks to Children is charged with a number of important duties including the provision of an in-depth federal agenda to address environmental health and safety risks to children, the establishment of partnerships among federal, state, and local governments to further address this issue, and the production of statements regarding the desirability of new legislation in order to fulfill the stated purpose of the order.⁹⁸ Because the Task Force

96. Executive Order, *supra* note 4, at 19,885 (1997).

97. *See id.*

98. *See id.*

will be comprised of representatives from a variety of federal agencies, at the very least, this Task Force should help promote greater national awareness and sensitivity to pediatric environmental health issues which could further spur decisive regulatory action. Moreover, if the Task Force decides that legislative action is needed, there is a good chance that its recommendations will be given great weight. As powerful, influential leaders in the federal government, the Task Force members not only have their own persuasive abilities, but they report to the President, who has the ultimate ability to advocate for the passage of new laws.

While Executive Order No. 13,045 is commendable in certain respects, it also has serious flaws. First, instead of creating an enforceable duty upon government agencies, the order's purported intention is "improving the internal management of the executive branch."⁹⁹ As Section 7-701 states, "This order is not intended, and should not be construed to create, any right, benefit, or trust responsibility, substantive or procedural, enforceable at law or equity by a party against the United States, its agencies, its officers, or its employees."¹⁰⁰ The consequence of this language is that the Order does not impose any substantive, enforceable duties upon government agencies. Therefore, the Order is merely a procedural request which carries no legal weight. Moreover, the Task Force on Environmental Health Risks has a limited existence.¹⁰¹ Its duration is only to extend for four years from its first meeting, although its members "shall assess the need for continuation of the Task Force" at least six months prior to its expiration.¹⁰² While it may be difficult to predict what measurable progress will occur in four years, it is certainly possible that a sustained interest in pediatric environmental health issues will not last. As with many "hot issues" in the policy arena, there is an initial flurry of interest that needs to be capitalized upon before other issues gain equal recognition and importance. Unfortunately, there is no guarantee that

99. *Id.*

100. *Id.*

101. *See id.*

102. *Id.*

substantive policy will be passed before interest in pediatric environmental health dwindles. As a result, Clinton's executive order may prove to be a short-lived, passing political phase. Moreover, while the Clinton Administration has definitely made children's environmental health issues a priority, a new presidential administration could, in effect, reverse much of what Clinton has helped to initiate. Since a new platform of policies could directly clash with that of President Clinton's, the result could be an outright dismantling of Clinton's work. For example, a new president could simply issue another executive order reversing Executive Order No. 13,045. Thus, because the current pediatric environmental health strategies are subject to the whims of a new presidential administration, the protection of children from environmental health risks could conceivably be a passing political phase.

V. One Plausible Solution: The Children's Environmental Protection Act of 1997

A. General Scope of the CEPA

While Barbara Boxer's proposed legislation, the Children's Environmental Protection Act, was not enacted in 1996, there is still a possibility that her 1997 legislation will pass the 105th Congress.¹⁰³ This legislation, introduced on April 16, 1997 in the Senate, would amend the Toxic Substances Control Act by adding a new Title V—"Environmental Protection for Children."¹⁰⁴ Essentially, the Children's Environmental Protection Act of 1997 (CEPA) has three ma-

103. Currently, the CEPA is still in the Senate Environment and Public Works Committee and Senator Boxer is working hard to get bipartisan support for her bill. Telephone Interview David Sanderetti, Press Office, Senator Barbara Boxer's Office (Sept. 25, 1998). However, it will be difficult to get the CEPA passed in the Republican-controlled Senate. *See id.* As a result, Senator Boxer may be forced to push many of the CEPA measures through Congress in a "piecemeal" fashion, by gradually amending various pieces of legislation as they come up for re-authorization. *See id.* For example, in 1996, Senator Boxer was instrumental in helping to amend the Safe Drinking Water Act to protect children by requiring that drinking water standards set by the EPA take into account children. *See id.*

104. *See CEPA, supra* note 2, § 2.

for parts: an EPA standard-setting and regulatory process component, a reporting processes and public access requirement, and a interagency research mandate.¹⁰⁵

1. EPA Standard-Setting and Regulatory Process Component

First, the CEPA *requires* EPA to ensure that pollution limits are set at levels that protect children with an adequate margin of safety.¹⁰⁶ The legislation achieves this goal by compelling EPA to “consistently and explicitly evaluate and consider the environmental health risks to [children]” in a wide variety of regulatory actions.¹⁰⁷ The CEPA mandates that EPA either develop and use a separate assessment or finding of risks to children or publish in the Federal Register an explanation of why the separate assessment or finding is not used.¹⁰⁸ The agency is also directed to identify and set priorities in a list of at least twenty public health and environmental standards to be reevaluated on an expedited basis, to propose revisions to at least twenty standards at the end of six years, and to reevaluate *all* of its public health and environmental standards within fifteen years.¹⁰⁹ EPA would also be required to issue an annual progress report to Congress.¹¹⁰

2. The Reporting Processes and Public Access Requirement

EPA would also be required within one year after enactment of the CEPA to identify the “environmental pollutants”—chemicals such as pesticides and household products commonly found in areas reasonably accessible to children (parks, schools, day care centers, and homes)¹¹¹ and which are “known, likely, or suspected health risks to children.”¹¹²

105. See generally CEPA, *supra* note 2.

106. See *id.* § 501(b)(1).

107. *Id.* § 503(a)(1).

108. See *id.* § 503(a)(3).

109. See *id.* § 503(b)(2)(E), (b)(3), (b)(4).

110. See *id.* § 503(b)(5).

111. This is how the CEPA defines “areas that are reasonably accessible to children.” See *id.* § 502(1).

112. See *id.* § 504(a)(2).

After identifying these suspected risks, EPA would be required to create a list of safe substitutes and make public a “safer-for-children” products list.¹¹³ This would be a list of substances and products recommended to minimize the potential risks to children from exposure to environmental pollutants.¹¹⁴ EPA would be required to review and update this list annually¹¹⁵ and not later than one year after enactment of the CEPA, only products on the “safer-for-children” list could be used on federal properties.¹¹⁶ EPA would also have to establish guidelines for reducing exposure of children to environmental pollutants in areas accessible to children.¹¹⁷ Finally, the CEPA mandates that EPA create a “family right-to-know information kit” that includes information on the potential health effects of exposure to environmental pollutants “with practical suggestions on how parents may reduce their children’s exposure.”¹¹⁸

3. The Interagency Research Mandate

Finally, the Act proposes that scientific research initiatives be carried out by a variety of federal agencies including EPA and the Departments of Health and Human Services and Agriculture to examine the health effects and toxicity of pesticides and other environmental pollutants on children.¹¹⁹ EPA would also be required to report its progress in carrying out these objectives to Congress on a biennial basis.¹²⁰

B. Shortcomings of the CEPA

While the CEPA is indeed laudable in many respects, there are several potential pitfalls with the legislation. First, the Act defines children to mean “[i]ndividuals who are eight-

113. *See id.* § 504(a)(3).

114. *See id.* § 504(a)(3). In addition, § 504(a)(6) requires that the information be made available to Federal and State agencies, the public, and on the Internet.

115. *See id.* § 504(a)(7).

116. *See id.* § 504(b).

117. *See id.* § 504(a)(4).

118. *Id.* § 504(a)(5).

119. *See id.* § 505(a).

120. *See id.* § 505(b).

een years of age or younger.”¹²¹ While at first glance this definition may seem sufficiently broad, a closer analysis reveals that the term children could be interpreted narrowly so that infants were excluded. This is especially troublesome considering that newborns and infants are particularly vulnerable to health risks associated with environmental pollutants because of their size.¹²² In this respect, the definition of children should be expanded to make clear that the term includes infants, children, and adolescents. In addition, the “safer-for-children” list of products and chemicals should be developed under strict standards so that the information does indeed serve to minimize the potential health risks to children associated with environmental pollutants. Although the CEPA provides that the list should be recommended by the Administrator of EPA and should be scientifically peer reviewed, it fails to specify exactly how the list will be created.¹²³ Unfortunately, by not setting forth clear guidelines for the development of a “safer-for-children” list, this provision of the CEPA has the potential to be counterproductive. As a result, the legislation should more clearly articulate the details of this provision of the Act. Moreover, substances which are excluded from the “safer-for-children” list are prohibited only on Federal properties and areas.¹²⁴ In other areas, the use of “safer-for-children” substances would be solely voluntary.¹²⁵ This is a definite failing of the CEPA, since the Act defines “areas that are reasonably accessible to children” to include homes, schools, day care centers, shopping malls, movie theaters, and parks, and yet prohibits the use of products excluded from the “safer-for-children” list only in Fed-

121. *Id.* § 502(2).

122. For example, in her statement on the CEPA, Senator Boxer pointed out that “[n]ewborns and infants frequently spend long periods of time on the floor, carpet or grass—surfaces that are associated with chemicals such as formaldehyde and volatile organic compounds from synthetic carpets and indoor and outdoor pesticide applications.” Sen. Barbara Boxer, Statement, *Children’s Environmental Protection Act*, April 16, 1997, at 1.

123. See CEPA S. 599, 105th Cong. § 504(3) (1997).

124. See *id.* § 504(b).

125. See *id.*

eral properties,¹²⁶ areas which generally do not typify sources of concern for pediatric environmental health hazards. In this respect, the CEPA should be re-worked so that the products that increase the potential health risks to children can be prohibited in those areas most frequented by children. In order to achieve this goal, the CEPA would have to reach federal, state, and private properties. In this regard, perhaps the Act could be re-written to provide states with federal incentives (i.e. monetary inducements) and clear guidance on how to implement these comprehensive provisions. Finally, although the Act encourages interagency coordination on research initiatives to examine the health effects and toxicity of pesticides and other environmental pollutants on children,¹²⁷ it does not provide for an increase in the amount of funds available for such research.¹²⁸ Thus, it is conceivable that the development of research initiatives to protect children may be stymied if adequate funds are not made available. Furthermore, the CEPA fails to specify whether the research initiatives are to be prevention-oriented.¹²⁹ This clarification should certainly be stipulated in this legislation since its overarching goal is to "[h]elp eliminate the health risk posed by harmful environmental pollutants to the children of this country and to the millions of others in jeopardy."¹³⁰ Thus, the legislation should explicitly state that the goal of the research initiatives is to study the effects of exposures of children to environmental pollutants with the concept of prevention in mind. In this way, the research initiatives could help identify and assess the "unnecessary and preventable health risks" that children are exposed to.¹³¹

126. *See id.* § 502(1).

127. *See id.* § 505.

128. *See generally* CEPA, S. 599, 105th Cong. (1997).

129. *See id.*

130. *See* Senator Barbara Boxer, *California Senator Barbara Boxer Announces Major Initiative to Protect Children's Health*, News From U.S. Senator Barbara Boxer, April 16, 1997, at 1.

131. Senator Barbara Boxer used these very words in speaking of the CEPA. *See id.*

C. Potential Consequences if the CEPA is Passed

By establishing in statute that all EPA standards adequately protect children, the Children's Environmental Protection Act makes many of the goals of EPA's report, *Environmental Health Threats to Children*, a credible reality.¹³² If passed, the Children's Environmental Protection Act will impose upon EPA an affirmative duty to factor children's concerns into environmental decisionmaking.¹³³ Like the Food Quality and Protection Act, which mandates by law that children's vulnerabilities be taken into account in setting pesticide standards,¹³⁴ the Children's Environmental Protection Act would mandate by law that EPA take into account children's special needs in enacting regulatory standards.¹³⁵ Such a concrete, substantive law would serve to cement many of the pediatric environmental initiatives currently on the table. Because the CEPA has the "legal teeth" necessary to gel some of the measures contained in Executive Order No. 13,045, if the legislation were to become law, it would have a stronger impact than the president's action. Moreover, by requiring EPA to annually report its progress in carrying out the law to Congress, the CEPA would further compel EPA to rightly carry out its mandate. In this way, a mandated EPA progress report would help ensure that the law is properly being adhered to by providing a "check" on the regulatory agency. Thus, EPA would be made more accountable for its environmental decision-making with regard to children. In this sense, compliance may be better assured. Moreover, the Act's "safer-for-children product list" will not only make EPA more aware of its actions by forcing it to consider the public's exposure to harmful pollutants, but will provide the public with pertinent information about the effects of environmental pollutants on children. This increase of information could help empower the public by educating it and ultimately giving it greater control in avoiding exposure

132. Compare EPA, *Environmental Health Threats to Children* (1996) available in 1996 WL 513582, with CEPA, S. 599, 105th Cong. (1997).

133. See generally CEPA, S. 599, 105th Cong. (1997).

134. New Legislature, *supra* note 44.

135. See generally CEPA, S. 599, 105th Cong. (1997).

to harmful pollutants. Moreover, it is possible that the "safer-for-children" products list will encourage the production of products which are less toxic to children by manufacturers wishing to have their products included on the list. Finally, the CEPA's interagency research component encourages coordination on research initiatives among key federal agencies.¹³⁶ This cooperation may not only serve to improve the scientific understanding of how exposure to environmental pollutants affects children's health, but may also help identify areas where further regulatory action and legislation is needed. In turn, these federal agencies can help impact future pediatric environmental health policy by advocating for the passage of new laws and regulations.¹³⁷ Leaders from key federal agencies are powerful, influential members of government and are frequently instrumental in recommending new political strategies.¹³⁸

VI. Conclusion: Stepping Back from it All, A Step in the Right Direction

Despite some of the criticism of the lack of substantive federal action to protect children from environmental health hazards, at the very least, pediatric environmental health issues are now at the forefront of national attention. However, while the flood of pediatric environmental health initiatives that have taken place on the federal level has indeed led to many positive changes to encourage the protection of children, legislation is needed that would *require* that risks to children be incorporated into all environmental regulation which impacts their health. With a binding requirement to consider and include children in all environmentally created

136. *See id.*

137. As Joy Carlson and Katie Sokoloff noted, "Policy makers depend on good scientific data in order to develop sound public health policy. . . ." *See* Carlson and Sokoloff, *Child Exposures*, *supra* note 30, at 3.

138. For example, Carol Browner, Administrator for the EPA, has been instrumental in passing the policy on Evaluating Health Risks to Children and in establishing the Office of Children's Health Protection. *See* Daily Environment Report, *supra* note 61, at A-4.

policies, children will be assured of a greater guarantee of environmental health protection on all levels.

The Children's Environmental Protection Act may be the solution to the "political vacuum" that currently exists at the federal level. This legislation would not only give EPA support, guidance, and direction on how to protect children from environmental pollutants, but would also solidify into statute the national policy that is needed. Thus, the CEPA would, if passed, have a stronger impact than Executive Order No. 13,045 because it would entrench into law many of the measures contained in President Clinton's order.¹³⁹ As a result, all EPA environmental and public health standards could better protect children in the present *and* the future.

139. See Louis Freedberg, *Clinton to Order Safeguards for Children*, S.F. CHRON., April 21, 1997, at A2.