

February 28, 1994

CAN WE SAVE EVEN MORE LIVES? UNDERSTANDING THE “OPPORTUNITY COSTS” OF REGULATION

John C. Shanahan
Policy Analyst

Adam D. Thierer
Policy Analyst

Ask the average American how much it is worth spending to save a life and you will be told a huge number—perhaps even that “no amount is too much.” It is this answer that leads Congress and federal agencies to impose huge costs on businesses and families to reduce the risk of injury or death by often an infinitesimal degree. But there is another way of looking at the same question: If public or private resources are to be spent protecting lives, is it best to spend these resources saving just a few lives — perhaps even none—or many lives? Presented with that question, which is almost never asked, Americans would give an answer that would lead to a very different level and type of regulation than that which burdens America today. In fact, it turns out that in many cases, if the private resources used up in complying with federal mandates were to be left in the industries concerned, or used in other ways in the local economy, Americans would benefit more. For instance, far more lives could be saved.

Policy makers generally fail to recognize the simple truth that using resources one way means not using them in other ways that could yield better results. Too often, therefore, and with little public debate, they create command-and-control type regulations that impose enormous costs on the economy to eradicate even the smallest risk. Yet they ignore the benefits, including much greater possible reductions in risks to individuals, that could be achieved by using these resources for some other purpose. The foregone benefits that could have been obtained by using funds in an alternative way are what economists call the “opportunity cost” of a regulation.

As a result, in part of ignoring opportunity costs, the aggregate costs of federal regulation now are estimated somewhere between \$881 billion and \$1.656 trillion annually.¹ This burden, which now rivals the tax burden, imposes costs of between \$8,388 and \$17,134 per household. But these huge figures mask the more important costs of federal regulation—more benefits, including far greater possible reductions in risk, that could be achieved through other uses of that money.

FYI #11/94

1 William G. Laffer III and Nancy A. Bord, “George Bush’s Hidden Tax: The Explosion in Regulation,” Heritage Foundation *Backgrounder* No. 905, July 10, 1992.

To understand the practical meaning of opportunity cost, consider the federal standards that require automobile manufacturers to make their cars more fuel-efficient. Proponents of these Corporate Average Fuel Efficiency, or "CAFE," standards say that greater fuel efficiency reduces health risks for Americans by cutting auto pollution. But the mandate to raise fuel efficiency standards encourages automakers to produce lighter cars. Unfortunately for drivers and passengers, lighter cars are also less able to withstand crashes, leading to an increase in the number of highway deaths.² Hence the opportunity cost of saving some lives through this form of pollution reduction is the—much larger—number of lives lost in additional crash fatalities.

Taking opportunity costs into account reveals that many regulations have large unintended consequences. Some are far less obvious than fuel efficiency standards, but just as real to those affected. For example, in 1992 the Occupational Safety and Health Administration (OSHA) proposed safety standards to protect workers from hazardous substances, a seemingly laudable action. But, after review, the Office of Management and Budget's Office of Information and Regulatory Affairs (OIRA) concluded that the proposed standards actually would cost more lives than they would save. The reason? OIRA noted that a recent D.C. Circuit Court of Appeals opinion cited statistical analysis that found one premature death was caused by each \$7.5 million of imposed costs. This is due to the lowering of overall worker living standards through pay and job losses, which is known to increase mortality rates. Thus, the OSHA regulation in reality would result in an estimated eight to fourteen more deaths per year than the rules would save.³

Relying on statistics developed by OIRA staff,⁴ the opportunity cost of other regulations can be quantified.⁵ For instance, in an effort to avert possible premature deaths due to active uranium mill tailings, which are toxic wastes left over from mining operations, the federal government mandated that mill tailings be covered or removed.⁶ That action imposed an estimated \$35 million annual cost on the nation and yet results in reduced risk of death by less than one person. In fact, there is only a 49 percent chance that even one death will be averted.⁷ Thus, the total economic cost of preventing one premature death would be \$71.6 million. Although advocates of the uranium mill tailings mandates would argue human life is worth any price, even \$71.6 million, they miss a crucial point. The point is that using the same funds in alternative ways could save many more lives, such as, to take a simple example, constructing more prison space to incarcerate repeat violent criminals.

According to OIRA, as noted earlier, the reduction in economic activity due to the burden of regulation itself actually increases risk because living standards are reduced and thus mortality rates are raised. This increased mortality, however, reflects only the heightened risk caused by the economic effects of the regulations, and is separate from reduced risks that could be achieved by devoting ex-

2 Robert W. Crandall and John D. Graham, "New Fuel-Economy Standards: The Politics of Energy," *The American Enterprise*, March/April 1991, p. 68; William G. Laffer III, "Auto CAFE Standards: Unsafe and Unwise at Any Level," Heritage Foundation *Backgrounders* No. 825, April 19, 1991; John Shanahan, "How to Help the Environment without Destroying Jobs," Heritage Foundation *Memo to President-Elect Clinton* No. 14, January 19, 1993.

3 See Frank Swoboda, "OMB's Logic: Less Protection Saves Lives," *The Washington Post*, March 17, 1992, p. A15; Daniel J. Mitchell, "The Deadly Impact of Federal Regulations," *Journal of Regulation and Social Costs*, Vol. 2, No. 2, June 1992, p. 45-56.

4 See *Regulatory Program of the United States Government, April 1, 1991 - March 31, 1992*, Office of Management and Budget, p. 12; Randall Lutter and John F. Morrall III, "Health-Health Analysis: A New Way to Evaluate Health and Safety Regulation," *Journal of Risk and Uncertainty*, Vol. 7 (1993), p. 295-318.

5 See the accompanying charts based on calculations by the authors.

6 Note that the government's methodology to determine the risk of is purposely overstated to ensure absolutely that the estimate is not too low. Thus the actual probable risk is typically only a fraction of official government projections.

7 To be more precise, 0.49 premature deaths will be averted.

penditures to other uses. OIRA estimates that each \$7.5 million increase in the regulatory burden to regulate uranium mill tailings, for instance, leads on average to one death from these economic causes. Thus, incurring \$71.6 million in costs over several years might save one life due to the regulation, but an estimated 10 other Americans will die because of the depressing effect on living standards. Thus, in reality, there will be a net loss of nine lives.

Even without taking into account the lives lost because of economic impacts, the more direct opportunity costs of a regulation such as the uranium mill tailings mandate can be enormous. If, for instance, \$71.6 million was devoted to additional colo-rectal cancer blood tests, which saves an estimated one life for every \$24,964 spent, approximately 2,858 lives could be saved overall.

Likewise, under the Environmental Protection Agency's hazardous waste disposal ban, only one premature death would be averted for each \$4.2 billion of costs incurred. Alternatively these same resources could be used to keep 47,890 dangerous criminals in prison for an additional three and one-half years.⁸ Since criminals kept in jail are not able to commit crimes, the number of charges that would otherwise be brought against these criminals would be reduced by: 22,680 for violent crimes; 1,035 for homicides; 586 for rapes; 1,191 for other sexual assaults; 658 for kidnappings; and 7,711 for robberies.⁹

Taking opportunity costs into account should be the first step in reforming the regulatory process. Policy makers must understand that federal risk regulation involves important trade-offs, or opportunity costs, that should not be ignored. Regulatory policy in the United States has been distorted because lawmakers typically have looked at only half of the equation. To look at the other half they must ask: Would the regulation actually endanger more lives? Would the same spending save more lives if used in other ways? Is the regulation a wise use of economic resources?

Since even well-crafted regulations can preclude using another mechanism that will save more lives, a missed opportunity can mean unnecessary deaths. Moreover, regulations frequently not only fail to save lives, but actually increase the death toll. Unfortunately, too many lawmakers ignore the fact that several alternatives usually exist to achieve a political objective. Crude command-and-control regulations rarely are the best way to accomplish such goals. They are difficult to enforce, costly to administer, and often fail to do the job, thus inviting further regulation. A clean environment, safe workplaces, and healthier populace are all admirable goals for public policy. Yet no society has unlimited resources to fund every available methods of reducing risks. Thus, the trade-offs must be understood and made.

8 Based upon \$25,000/year cost to incarcerate one prisoner. Note that this figure represents the cost to incarcerate a federal prisoner; the cost to incarcerate state prisoners will vary by state. Figures from Morgan O. Reynolds, "Crime Pays, But So Does Imprisonment," NCPA *Policy Report* No. 149, National Center for Policy Analysis, March 1990, p. 20; also see: William P. Barr, "Crime, Poverty, and the Family," *Heritage Lecture* No. 401, July 29, 1992, p. 4.

9 See: Bureau of Justice Statistics, U.S. Department of Justice, *Recidivism of Prisoners Released in 1983*, April, 1989, p. 1. Figures are based on the number of arrest charges brought against released prisoners who were re-arrested within three to four years, according to the study. The number of convictions stemming from these changes is not available.

**INSTEAD OF SPENDING \$4,190,400,000 TO AVERT ONE DEATH
UNDER THE HAZARDOUS WASTE DISPOSAL BAN...**



47,890 criminals could be kept in jail for 3 1/2 years.

This would reduce arrest charges¹ over that period by:

22,680	violent crimes	7,711	robberies
1,035	homicides	586	rapes
1,191	other sexual assaults	658	kidnappings

**INSTEAD OF SPENDING \$119,000,000,000* TO AVERT ONE DEATH
UNDER THE FORMALDEHYDE OCCUPATIONAL EXPOSURE LIMIT...**



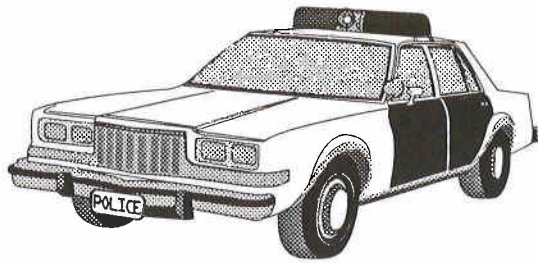
331 new drugs could be developed and brought to market.²

Note: Cost figures are based on amount necessary to avert one death, not actual program costs.

* 1992 dollars; all other figures in 1990 dollars.

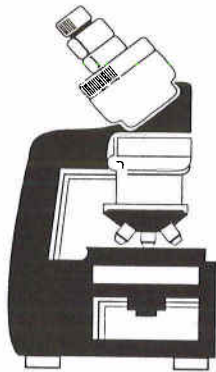
- 1 Figures shown are based on the number of arrest charges brought against released prisoners who were re-arrested within 3-4 years, in a Department of Justice study. The number of convictions stemming from these charges is not available. See: Bureau of Justice Statistics, U.S. Department of Justice, *Recidivism of Prisoners Released in 1983*, April, 1989, p. 1
- 2 Based upon a drug development cost of \$359 million per drug in 1990. Source: Pharmaceutical Manufacturers Association.

**INSTEAD OF SPENDING \$168,200,000 TO AVERT ONE DEATH
UNDER THE BENZENE NESHAP STANDARD...**



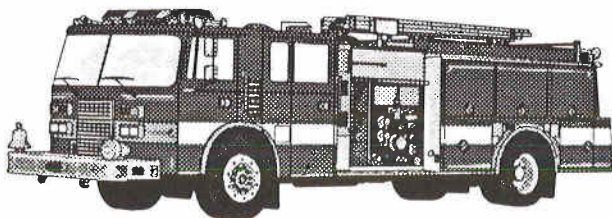
3,064 police officers
could be placed on
the street.³

**INSTEAD OF SPENDING \$92,069,700,000 TO AVERT ONE DEATH
UNDER THE ATRAZINE/ALACHLOR DRINKING WATER STANDARD...**



Cancer research funding
at the National Cancer
Institute could be
quadrupled for the next
12 years.⁴

**INSTEAD OF SPENDING \$653,000,000 TO AVERT ONE DEATH
UNDER THE 1,2-DICHLOROPROPANE WATER STANDARD...**



4,353 new firetrucks
could be purchased:
10 per congressional
district.⁵

³ Based upon a per officer sworn operating expenditure of \$54,900 for fiscal year 1990. Source: Bureau of Justice Statistics, Law Enforcement and Pretrial Statistics Unit.

⁴ Based upon 1993 funding level of \$1,978,420,000. Source: Budget of the United States Government, Fiscal Year 1994.

⁵ Based upon an average cost per new firetruck of \$150,000. Source: Fire Apparatus Manufacturers Association.

⁶ This figure represents the amount of societal resources that would have to be dedicated for the purposes outlined in the tables.

⁷ For cost per life saved estimates for cancer screening and medical care programs. See: Bernard L. Cohen, "Reducing the Hazards of Nuclear Power: Insanity in Action," *Physics and Society*, Vol. 16, No. 3, (July 1987), p. 2.

ALTERNATIVE WAYS TO REDUCE THE RISK OF DEATH

REGULATION*	Regulatory Burden Per Life Saved**	Claimed # of Lives Saved	# of Lives Lost***	ACTUAL LIVES LOST
DES Cattlefeed Ban	\$178,000,000	1	24	23
Asbestos Ban	\$110,700,000	1	15	14
Coke Ovens Occupational Exposure Limit	\$83,400,000	1	11	10
Arsenic Standards for Glass Plants	\$192,000,000	1	26	25
Arsenic Occupational Exposure Limit	\$125,000,000	1	17	16
Asbestos Occupational Exposure Limit	\$74,000,000	1	10	9
Cover/Move (Active) Uranium Mill Tailings	\$71,600,000	1	10	9

ALTERNATIVE USE OF REGULATORY BURDEN	Cost Per Life Saved	Claimed # of Lives Saved	ACTUAL LIVES SAVED
Cervical Cancer Screening	\$62,411	2,852	2,828
Breast Cancer Screening	\$199,715	554	539
Lung Cancer Screening	\$174,751	477	466
Kidney Dialysis	\$499,288	385	359
Increase Mobile Intensive Care Units in Small Towns	\$149,786	835	818
Hypertension Control	\$187,233	395	385
Colo-rectal Cancer Blood Tests	\$24,964	2,868	2,858

* All figures are in 1992 dollars except the Asbestos Ban and Asbestos Occupational Limit, which are in 1990 dollars.

** Refers to amount of economic resources that would have to be spent over time to avert one death.

*** Calculated by dividing regulatory burden per life saved by \$7.5 million (which is the amount of additional regulatory spending that OIRA has found causes 1 death).