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DRUG TESTING IN THE WORKPLACE: A VIEW FROM THE DATA

MICHAEL R. GOTTFREDSON*
CAROLYN UIHLEIN**

Programs designed to test job applicants and employees for drug use have increased rapidly in popularity in recent years. Such programs have received high-level policy support in the federal government and have earned considerable popular support among the American public. A CBS/New York Times poll published in August 1986 shows that the majority of Americans (fifty-one percent) believe that drug testing would reduce illicit drug use in this country a "great deal." According to this poll, the American public sees workplace drug testing as potentially more effective in reducing drug use than stiffer penalties for drug use, educational programs about drug abuse, more drug treatment programs, and military raids on other countries to destroy drugs. An ABC News poll reports that among the employee groups most favored for testing on a regular basis are federal employees involved in national security areas (eighty-eight percent favor testing), professional athletes (seventy-four percent), police officers (eighty-six percent), and airline pilots (eighty-nine percent). When asked whether drug testing is a good or a bad idea for different occupations, respondents answered overwhelmingly in favor of drug testing for every occupation, including office workers, factory workers, and utility workers.

Despite the extensive support for workplace drug-testing pro-

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3. Id.
4. Id. at 200.
grams, the rationales offered for applicant and employee drug testing are varied. Certainly, much of the popularity of these programs relates both to current concerns about the prevalence of illegal drug use in the United States and to the perceived connection between drug use and other forms of criminal behavior. Some therefore urge greater employee testing coupled with sanctions, such as denial of employment or loss of employment, as one more weapon in the "War on Drugs." Perhaps if people are threatened with the loss of employment, they will be less likely to use drugs in the first place. Some employers concerned about drug use among their employees may establish drug treatment programs and undertake drug testing to pursue rehabilitative goals.

Another common rationale for drug testing is safety, a concern reflected in the widespread desire to test those in transportation and safety-sensitive occupations. Drug testing for important role models, such as athletes and school teachers, is suggested by some as a potentially effective teaching device used to dissuade young people from engaging in drug use. Others point to the logical connection between drug impairment and productivity; it has been argued that those who use drugs are less reliable employees, are more frequently tardy and absent from work, have a greater frequency of accidents while at work, and are less productive generally than are those who do not use illegal drugs. And finally, some urge drug testing of employees on strictly moral grounds—whatever the utilitarian benefits of a drug-free workplace on productivity, crime reduction, or safety, some believe that employers should deliver a useful moral message about the inappropriate use of drugs.

Clearly, these differing rationales have distinctly different implications for comprehensive evaluations of workplace drug-testing programs. Legal questions of privacy, procedure, and remedies and public policy questions of propriety may be strikingly different, depending on whether a particular program is

6. Although the relationship between drug (and alcohol) use and productivity is commonly cited as a concern addressed by drug testing, and although a relationship between the two may be established, the independent effect of drug use on job performance is difficult to measure. As described later in this Article, drug use is disproportionately a young person's activity, and young people are less likely than other people to have stable employment patterns. Similarly, those who use drugs may be less likely to show up for work or to perform well at work, whether or not they are currently under the influence of drugs. Separating these effects from the effects of drug use is a notoriously difficult undertaking in nonexperimental behavioral science. As a result, most estimates of the costs of employee drug use are unreliable.
advanced to protect the traveling public or to act in the therapeutic interests of particular workers. Additionally, empirical questions regarding the costs that both public and private employers may be willing to pay for drug testing, or the tolerance of the public for such a clear intrusion into privacy, may depend on the benefits said to accrue to such programs.

Whatever the justification for workplace drug testing, all such programs presuppose something about the nature and distribution of drug use in the United States, the forms of drugs used, who uses the drugs, and the trends of drug use over the last decade. The purpose of this Article is to describe some of the known facts about contemporary drug use and about trends in employer drug testing in order to lay the groundwork for the evaluation of various drug-testing rationales. Although the social distribution of drug use is only one aspect of an informed evaluation of such programs, the very nature of drug use itself may very well jeopardize some justifications for workplace drug testing. Part One of this Article reviews sources of data on trends in drug use and presents recent findings. Part Two examines the distribution of drug use in American society, paying particular attention to correlates germane to the question of workplace drug testing. Part Three reviews recent data on the extent of drug testing in the workplace and on the costs of drug use. Finally, Part Four draws attention to some of the implications that these data on employer drug testing will have on public policy.

I. CONTEMPORARY TRENDS IN DRUG USE

Various indicators of trends in drug use over time are available. For legal drugs, such as alcohol, consumption and sales figures suggest significant declines in recent years. For example, the National Restaurant Association reports that alcohol consumption in restaurants dropped seventeen percent between 1980 and 1987, while during the same period, beer consumption was down by seven percent, wine consumption was down by fourteen percent, and consumption of distilled spirits was down by twenty-three percent.7

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Government data concerning arrests, convictions, and sentences for drug-related offenses are also available. The utility of these series for depicting trends over time is, however, highly problematic because these series depend so heavily on levels of enforcement activity. Clearly, this enforcement activity, which includes policing and sentencing, has increased dramatically due to the increased expenditures associated with the war on drugs. Consequently, data sources that do not rely on enforcement activity, such as citizen surveys, probably present the most reliable picture.

The most useful and widely cited survey-based sources for trends in drug use are two national probability surveys, both sponsored by the National Institute on Drug Abuse: the National Household Survey and the National High School Senior Survey. The Household Survey attempts to give population estimates for the civilian, noninstitutionalized population, whereas the High School Senior Survey seeks to depict a nationally representative sample of students.

The Household Survey, the source most commonly referenced by governmental officials who argue drug policy, is undertaken for the National Institute on Drug Abuse by the Research Triangle Institute. The survey targets the population twelve years and older living in households in the contiguous United States. Excluded from the scope of coverage are persons living on military installations, in dormitories, and in institutions such as hospitals, prisons, and jails. Also excluded are those without a permanent residence.

The second major survey, called “Monitoring the Future,” is also known as the National High School Senior Survey.

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8. Data on known arrests and offenses are available from the FBI's *Crime in the United States* report, and data on incarceration are available in the Justice Department's annual publication, *Prisoners in State and Federal Institutions*. Both series are usefully compiled and summarized in *Bureau of Justice Statistics*, *supra* note 2, at 319-44, 487.


10. *Id., supra* note 9, at 1.

11. *Id.* at 4.

12. *Id.*

13. *Id.*

14. *Id.*
A survey is based on national area probability sampling, with multistage sampling procedures designed to gather a nationwide sample of high school seniors.¹⁵ It is funded by the National Institute on Drug Abuse and conducted by researchers for the University of Michigan's Institute for Social Research.¹⁶ Followup surveys are conducted with about fifteen percent of the seniors after they have left high school.¹⁷ One especially attractive feature of this survey is its focus on people in their late teens, the age group that consistently has the highest rates of criminal and delinquent behavior.¹⁸

The populations excluded from these surveys, as well as the nonresponse error associated with those within the sampled population, indicate that the surveys probably underestimate the level of drug use to some extent. For example, it is thought that those most heavily using drugs are less likely to be included in a household survey, because they may not be associated with a household address and because they are more likely to be nonresponders (they may be less frequently found at home, they may be more likely to decline to answer the survey, and they may be more likely to fabricate responses). Similarly, the school-based surveys include only those attending school and are dependent upon the validity of the responses of those who do attend. Dropouts and other nonattenders may have drug use patterns distinct from high school students. Whether such features also indicate that the trends depicted by the data are unreliable is far from certain; that is, whether the uninterviewed populations behave similarly to the interviewed populations is unknown.¹⁹ Even with the exclusions, however, data confirming the validity of such self-report surveys lend substantial confidence to their results.²⁰

Using the data gathered by the two surveys, one can form a picture of current trends in drug use. Figure One presents the Household Survey data for 1982, 1985, 1988, and 1990 for the

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¹⁵. *Id.* at 17-19.
¹⁶. *Id.* at 1.
¹⁷. *Id.* at 19-21.
¹⁹. Some may argue that the recent large declines in reported drug use hold true only for the populations in the survey and not for others, such as the homeless or "hard core" drug users. Such disputes may not be particularly relevant to the workplace drug testing issue, however, because the unenumerated groups are generally not in the labor force.
percentage of the population that reported having used at least one of eight different drugs in the thirty days prior to the interviews. Several aspects of these data are noteworthy. First, by a large margin the most commonly used drugs in American society are alcohol, cigarettes, and marijuana. Second, with the exception of these drugs, the prevalence rate (the proportion of a population that uses drugs) is low when the general population provides the basis for the percentages. Third, for every drug type, legal as well as illegal, the trend over time, especially since 1985, has been toward decreased drug use. Fourth, some of the declines, especially for marijuana and cocaine, are fairly large.

Figures Two and Three depict trend data from the High School Senior Survey. Among high school seniors, marijuana and alcohol use peaked about 1978 and has declined since that
time. Cigarette use has also declined over this period. Trends for other drugs (shown in Figure Three) are also generally down, and, in proportional terms, most have declined substantially. Even cocaine use, which increased until 1985, has since shown a substantial decline.

Self-reported lifetime use for these same drugs in the High School Senior Survey follows similar trends over time. The proportion of respondents who reported that they had ever used marijuana peaked at about sixty percent in 1980 and has declined substantially since then; cigarette use shows similar declines in lifetime use, although alcohol use among high school students remains relatively stable (see Figure Four). Trends in self-reported lifetime use of cocaine, stimulants, tranquilizers, sedatives, and heroin are similar to the trends in “past thirty day” use (Figure Five). The proportion of high school seniors reporting use of marijuana in 1989 is in fact less than the proportion reporting marijuana use in 1975. Indeed, with the exception of cocaine and alcohol, the self-reported rates of all forms of drug use are now at the lowest point of the period.

All available indicators suggest that significant and persistent declines in illegal drug use have occurred in the United States.
over the last decade. The figures for the teenage population are especially encouraging, because the most active drug users are teens. Because drug use declines consistently with age, these figures portend societal declines well into the future. Presumably these declines are the product of many causes. However, it has been pointed out that because the use of alcohol and cigarettes has declined along with the use of illegal drugs, general social attitudes concerning the health consequences of drug use may have had more to do with the decline than increased activities of law enforcement or increased penalties in the criminal justice system.21

II. SOCIAL DISTRIBUTION OF DRUG USE

Social scientists have known for quite some time that a substantial relationship exists between the use of drugs, including alcohol and tobacco, and other forms of delinquency and

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21. See Gottfredson & Hirschi, supra note 7, at C3.
FIGURE 4—TRENDS IN LIFETIME USAGE FOR HIGH SCHOOL SENIORS: MARIJUANA, ALCOHOL, AND CIGARETTES, 1975-1990


FIGURE 5—TRENDS IN LIFETIME USAGE AMONG HIGH SCHOOL SENIORS, FOR SIX DRUGS, 1975-1990

criminal conduct. That is, those who use drugs excessively are more likely than others to be involved in theft and assault and to have unstable school and employment histories.22 As a consequence, the social and demographic correlates of crime tend to be quite similar to the social and demographic correlates of drug abuse—both tend to be concentrated in urban areas or areas characterized by social disorganization and to occur among males and among the young.

Certainly, as shown by both the Household Survey and the High School Senior Survey, large proportions of the American public use both legal23 and illegal drugs,24 but heavy use and multiple drug use is substantially correlated with other forms of deviance. As one leading researcher puts it, “compared to the abstaining teenager, the drinking, smoking, and drug-taking teen is much more likely to be getting into fights, stealing, hurting other people, and committing other delinquencies.”25 Figure Six, which compares the lifetime use of three drugs between inmate and general population samples, reveals the magnitude of the relationship between offender status and drug use.

Data from the Household Survey affirm these long-established correlates. Those in their late teens are more likely to use drugs than those in other age groups, and at all ages, males are more likely to report use than females. Minority group members are more likely to report use than are majority members. The prevalence of use generally shows lower correlations with other forms of delinquent and criminal conduct, although the frequency reveals higher correlations (for example, whereas there are not large differences between the proportion of boys and girls who have used drugs, boys tend to use drugs much more frequently).26

22. For a general review, see JERALD G. BACHMAN ET AL., YOUTH IN TRANSITION: ADOLESCENCE TO ADULTHOOD — CHANGE AND STABILITY IN THE LIVES OF YOUNG MEN 184-203 (1978) (linking delinquent behavior and drug use); DELBERT S. ELLIOTT ET AL., MULTIPLE PROBLEM YOUTH 50-87 (1989); MICHAEL R. GOTTFREDSON & TRAVIS HIRSCHI, A GENERAL THEORY OF CRIME 40-42 (1990); TRAVIS HIRSCHI, CAUSES OF DELINQUENCY 164-68 (1969) (linking delinquent behavior to smoking and drinking); Ronald Akers, Delinquent Behavior, Drugs, and Alcohol: What is the Relationship?, 3 TODAY'S DELINQUENT 19, 35 (1984) (noting that drug and alcohol users are more than twice as likely to be delinquent as abstainers).

23. HIGH SCHOOL SENIOR SURVEY, supra note 10, at 12 (over 90% of high school seniors report having used alcohol).

24. HOUSEHOLD SURVEY, supra note 9, at 35 (33% of household population has used marijuana at some time in their lives).

25. Akers, supra note 22, at 41.

26. GOTTFREDSON & HIRSCHI, supra note 22, at 40-41.
These facts relate directly to evaluations of workplace drug-testing programs because they suggest the groups most likely to be affected adversely by such programs. Figure Seven, which depicts the relationship between employment status and self-reported marijuana and cocaine use by persons aged eighteen to twenty-five in the previous thirty days, shows that young people outside the labor force are the people most likely to use these drugs. (Although not depicted in Figure Seven, the unemployed are also much more likely than the employed to report alcohol, hallucinogen, stimulant, and sedative use.)

Only sparse data exist concerning the use of drugs while users are at work. One study of employee beliefs and attitudes about drug use discovered that about twenty percent of the employees surveyed believed that drug use in their workplace affected the capabilities of their organization.27 Some direct data

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are provided in Table One, taken from a self-report survey of employees in three types of industry in 1988. This survey indicates that the proportion of workers saying that they themselves have gone to work under the influence of alcohol or other drugs ranged from a high of thirteen percent for manufacturing industries to a low of three percent for hospital workers. A preliminary report funded by the National Institute on Drug Abuse sampled employees of Georgia Power, a member of Southern Electrical International, Inc. Of the 17,244 workers employed by Georgia Power in 1986, only 463 were actually tested for drug use, and of these, only 13.4 percent tested positively.


### TABLE 1

**Self-Reported Incidence of Coming to Work While Under the Influence (WUI) of Alcohol or Other Drugs by Type of Industry**

<table>
<thead>
<tr>
<th>Type of Industry</th>
<th>Retail</th>
<th>Manufacturing</th>
<th>Hospital</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>92.4%</td>
<td>87.2%</td>
<td>96.7%</td>
</tr>
<tr>
<td>1-3 Times Per Year</td>
<td>4.6</td>
<td>7.3</td>
<td>2.2</td>
</tr>
<tr>
<td>4-12 Times Per Year</td>
<td>1.6</td>
<td>3.1</td>
<td>.6</td>
</tr>
<tr>
<td>About Weekly</td>
<td>.8</td>
<td>1.3</td>
<td>.3</td>
</tr>
<tr>
<td>Almost Daily</td>
<td>.5</td>
<td>1.1</td>
<td>.1</td>
</tr>
<tr>
<td>Total Reporting Some Instances of WUI</td>
<td>7.6</td>
<td>12.8</td>
<td>3.2</td>
</tr>
</tbody>
</table>


### III. Trends in Drug Testing in the Workplace and the Cost of Drug Abuse

Drug testing of public sector employees, including defense, justice, aviation, and transportation workers, has been ongoing for a number of years. In September of 1986, President Reagan signed an executive order declaring that the approximately 2.8 million civilian workers employed by the federal government were to be drug free, both on and off the job.\(^{30}\) Today, drug testing has increased dramatically and has penetrated the private sector. The U.S. Department of Justice estimates that drug testing of job applicants or of workers among the Fortune 500 companies increased from three percent in 1982 to forty percent in 1989.\(^{31}\)

As shown in Figure Eight, the presence of a drug-testing program is directly related to the size of the business. Whereas less than ten percent of the establishments with fewer than fifty employees in 1988 had a drug-testing program, almost sixty

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percent of those with 5000 or more employees had such programs.\textsuperscript{32} There is considerable variability in the extent of drug testing among different types of industries in the private sector. As shown in Figure Nine, over twenty percent of the mining establishments have drug-testing programs, whereas less than five percent of the retail, services, and construction businesses test for drugs.

The most common form of drug testing is applicant testing. The Bureau of Labor Statistics estimates that employers tested 3.9 million job applicants in 1988.\textsuperscript{33} Among those private establishments that have drug-testing programs, eighty-five percent test applicants and approximately sixty-four percent test current employees (see Table Two).\textsuperscript{34} In excess of eighty percent of the businesses that test applicants do not selectively test for specific occupations; rather, they test all job applicants. On the

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\textsuperscript{33} Id. at 9.

\textsuperscript{34} Id. at 8.
other hand, most businesses that test current employees test only those suspected of drug use or those in specific occupations. About one quarter of the businesses with drug-testing programs test all employees, sometimes on a random basis.

Certainly much of the recent drug-testing activity in the workplace is in response to the perceived costs of drug abuse to American society. Such costs are extremely difficult to calculate, however. In 1983, the Research Triangle Institute estimated that drug abuse cost American society $60 billion, a figure that 1989 estimates have indicated rose to $100 billion in 1986.35 Much of these costs relate, however, to the costs of drug enforcement, prevention, and treatment programs—governmental expenditures that are themselves consequences of public policies concerning how to respond to the drug problem. Government estimates of the costs to the United States of drug and alcohol abuse also include substantial components that are

### Table 2

**Drug Testing Programs by Type of Program:**  
**Private Nonagricultural Establishments and Employees.**  
**Summer 1988**

<table>
<thead>
<tr>
<th>Type of Program</th>
<th>Estab.</th>
<th>Estab.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent with a Program that Tests:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job Applicants</td>
<td>85.2</td>
<td>88.5</td>
</tr>
<tr>
<td>Current Employees</td>
<td>63.5</td>
<td>66.3</td>
</tr>
</tbody>
</table>

Percent with a Program for Job Applicants that Test:

<table>
<thead>
<tr>
<th>Category</th>
<th>Estab.</th>
<th>Estab.</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Applicants</td>
<td>83.4</td>
<td>89.0</td>
</tr>
<tr>
<td>Applicants for Specific Occupations</td>
<td>16.1</td>
<td>10.2</td>
</tr>
<tr>
<td>Some other Group of Applicants</td>
<td>1.1</td>
<td>.9</td>
</tr>
</tbody>
</table>

Percent with a Program for Current Employees that Tests:

<table>
<thead>
<tr>
<th>Category</th>
<th>Estab.</th>
<th>Estab.</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Employees*</td>
<td>26.4</td>
<td>11.6</td>
</tr>
<tr>
<td>Employees Suspected of Drug Use</td>
<td>64.2</td>
<td>81.3</td>
</tr>
<tr>
<td>Employees in Specific Occupations</td>
<td>15.1</td>
<td>15.3</td>
</tr>
<tr>
<td>Some Other Group of Employees</td>
<td>3.4</td>
<td>6.3</td>
</tr>
</tbody>
</table>

* Programs range from testing the entire group to random testing of a small percentage of the group.

Note: The individual categories will sum to more than 100 percent because many establishments have more than one program.


Based on weak assumptions about drug use and crime. For example, thirty-six percent of the costs of drug abuse in the estimates provided to Congress by the National Institute on Alcohol Abuse and Alcoholism are attributed to crime (for security, criminal justice expenditures, incarcerations, and "criminal careers") although many criminologists doubt an important
causal role for drugs in crime.36 Further, it is questionable to include the costs of enforcement activity in estimates designed to suggest that the costs of drug abuse are so high to society that increased expenditures (that is, more "costs") are necessary.37 Quite clearly, federal spending on drug problems has skyrocketed in recent years; in 1988, the federal budget allocated about $4 billion to fighting drug abuse, and by 1990, the estimate for the federal budget was about $7.8 billion.38

Whatever the merits of these federal data on the costs of drug abuse in American society, one statistic is uniformly reported—the cost of alcohol abuse, whether measured in terms of increased employment costs, reduced productivity, law enforcement expenditures, or deaths, far exceeds the costs of all other forms of drug abuse.39 For example, the National Institute on Alcohol Abuse and Alcoholism has claimed that the total costs of alcohol abuse are twice those for all other forms of drug abuse in terms of the reduction of productivity and lost employment.40

IV. CONCLUSIONS

In the absence of high-quality experimental evaluations of drug-testing programs in the workplace, undertaken by independent researchers, very little can reliably be concluded about the effectiveness and efficiency of the many programs now in existence. Studies of the relation between job performance and drug use that do exist routinely fail to control factors such as age, education, and employment history that are known to be related to drug use and work performance. The costs of testing, including the financial costs to businesses and to the government and privacy costs to employees, are rarely examined critically. Instead, supporters of drug testing in the workplace point to overwhelming public support for such programs, to the high "costs" of drug abuse in the workplace, and to the need for

36. See, e.g., GOTTFREDSON & HIRSCH, supra note 22, at 93 ("The relation between drug use and delinquency is not a causal question. The correlates are the same because drug use and delinquency are both manifestations of an underlying tendency to pursue short-term, immediate pleasure.").
38. WHITE HOUSE, supra note 1, at 123.
39. David L. Wilson, Costs of Alcohol, Drugs and Mental Illness, 22 NAT'L J. 2938, 2938 (1990) (noting that in 1985, alcohol abuse cost the nation $70.3 billion, while drug abuse costs totalled $44.1 billion).
40. U.S. DEP’T OF HEALTH & HUMAN SERVS., supra note 37, at 22.
It is quite doubtful that the many thousands of companies that employ drug testing engage in rigorous cost-benefit analyses prior to establishing their programs. Rather, they are more likely to be swept away by the forces of public opinion against drug abuse and by vigorous marketing by testing firms.

The data reviewed here have some important implications for the debate about workplace drug testing and about responsible regulation of such practices. The overwhelming public support for employer drug testing, even in companies with no security or safety functions, suggests that the public finds merit in a variety of rationales for workplace drug testing, including, perhaps, both the role model and general prevention points of view. Most likely, the level of discussion about illegal drugs in American society, coupled with the apparent difficulties in a criminal justice response to the problem, encourages the public to want to explore all options. Given the negative correlation between employment and drug abuse cited above, however, it is questionable whether attacking general drug abuse through the private sector will be any more effective than attacking it through the criminal justice system. Preemployment screening may keep some drug users out of the labor force, but given the relationships between drug abuse and poor schooling, spotty work records, and lack of job skills, it is doubtful that drug tests will do much more to increase the quality of the labor force than any serious employment screening devices would.\textsuperscript{41}

If past experience is a guide, then most businesses that decide to test employees will find it prohibitively expensive to test all employees, as well as unnecessary from the perspective of safety or economy. The very heavy reliance on individualized suspicion to trigger employee drug tests in the private sector underscores the need for rigorous standards for informing this suspicion and for safeguarding suspected employees.

The enormous volume of tests now being done in the workplace focuses attention on the need for regulating drug testing firms and the businesses that use them. The vast market that has been created invites the development of many new testing
companies and generates the potential for abuse (lack of qualified staff for testing, lack of competent chain-of-custody procedures, the potential for error due to high volume, and other abuses).

Finally, the sizable reductions in drug use in American society during the last decade seem a stark contrast to the public perceptions and governmental activity about policies to reduce drug use. Perhaps a better-informed public, including employers, would question the utility of massive workplace drug testing. The noticeable shift in attitudes away from drug use of all sorts, now routinely documented in surveys, suggests strongly that most of the goals of workplace drug testing are being met on a national scale without resulting in the financial costs and threats to privacy that these programs can cause.

42. See the shift in opinion documented in the National Institute on Drug Abuse surveys, supra notes 9-10.