Chapter 3

Employment Testing

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INTRODUCTION

The focus of this assessment in the employment area is the use of diagnostic and predictive tests to screen for medical and health-related conditions among prospective employees in order to hold down health care costs. However, them are other reasons why employers might want to screen prospective as well as current employees.

First, screening may be used as part of a pre-employment evaluation to disqualify applicants (e.g., testing for use of illegal drugs such as marijuana and cocaine, or AIDS antibody testing) or to determine if the applicant can physically perform the intended work (e.g., examinations for firefighters and police). Second, after a person is hired, screening may be used to determine whether there is any health condition that may require special precautionary care because of known workplace exposures. Third, screening tests may be used to monitor workers exposed to known or suspected environmental hazards, including preplacement testing to establish a baseline that can be used for comparison with future worksite monitoring results. These examinations may be periodic (e.g., conducted on a yearly basis), episodic (e.g., conducted after an unusuaI exposure, such as an accidental spill of a hazardous substance), or conducted after returning to work following an illness or injury. Lastly, screening increasingly has been incorporated into workplace wellness programs to identify risk factors associated with disease so that risk factors can be reduced through health education.

By identifying applicants at risk for disease, especially chronic diseases, and not hiring them, employers would forego the expense of decreased productivity and of time lost from work (including the costs to hire and train workers to temporarily fill in for the absent employee). Employers who provide health insurance to their employees would also have reduced costs. These incentives to screen applicants may be much more significant for some employers than for others. For example, employers with low turnover and high training costs may be especially interested in preemployment screening. Similarly, employers with generous health care and disability benefits may be more inclined to screen than employers with limited benefits. Employers with high employee turnover may not have incentives to test for disease susceptibilities if new employees are young and likely to be employed elsewhere when these diseases become manifest. On the other hand, there might be greater incentives to test for illegal drug use if prospective and/or new employees are young, because of greater use of illegal drugs among the younger workforce.

In this chapter, information and issues concerning employment-based testing are first presented, followed by a similar analysis of the health benefits that are available through the workplace.

LIMITS ON EMPLOYMENT-BASED TESTING

A wide variety of legal restraints is potentially applicable to employment-based screening, although much remains unsettled in this area. Distinctions must also be made as to whether the employer is in the public or private sector (i.e., whether governmental action is involved), and whether a cause of action by a prospective employee who objects to testing is grounded in an existing statute or in case law as developed over the years by the courts. Additionally, States differ in their approaches and available legal remedies, so the State in which a cause of action is brought may also have a substantial bearing on the success or failure of challenges to preemployment testing.

Constitutional and Related Remedies

Resistance to screening based on constitutional restrictions is limited to public sector employees

and government mandated testing of private contractors because of the requirement that State action must be involved before the constitutional remedies apply. The principal constitutional remedies are the Fourth Amendment limitations on search and seizure, Fifth Amendment prohibitions against self-incrimination, requirement of a "rational basis" for testing under the Fourteenth Amendment, and a general constitutional right to privacy.

Most of the litigation concerning these constitutional principles has involved the Fourth Amendment and urine drug screening programs. While requiring urine specimens is a search and seizure, it does not require a warrant and probable cause, but does require reasonable suspicion based on objective facts (179), or urine drug testing must be conducted only in narrow, specifically delineated circumstances **(216).**

A right to privacy may result in prohibiting testing when no particular basis exists for testing (41), but this may not be the case in closely regulated industries, such as horse racing, where testing without individual suspicion has been found to be reasonable (269). Some State constitutions may also contain a right to privacy (e.g., California, Illinois, Louisiana, Florida), and may be enforced even against private employers (105).

Some States have also enacted laws directed against specific testing programs. For example, California, Florida, Hawaii, Massachusetts, Texas and Wisconsin have limited use of AIDS antibody testing or information on antibody status in determining employability (168). In the case of urine drug testing, no State has prohibited its use, but several States have enacted laws determining when and under what circumstances such testing can be conducted. Connecticut, Iowa, Minnesota, Montana, Rhode Island, and Vermont have all enacted laws that require either probable cause ***or*** reasonable suspicion before testing can be conducted. Utah, on the other hand, enacted a law that seems to encourage drug testing as long as it is "fair and equitable" because it "is in the best interest of all parties. " (See table 3-1 for State laws on AIDS, and table 3-2 for a summary of 1987 State legislative activities on urine drug testing.)

Statutory Remedies

The principal statutory remedy available to persons objecting to employment-based screening is the Vocational Rehabilitation Act of 1973 (29 U.S.C. sections 701-796), which applies to Federal employment and employers receiving Federal funds. Over 40 States and the District of Columbia also have legislation prohibiting handicap discrimination in private sector employment, and while the definitions and judicial interpretations of what constitutes a handicap vary by State, about one-third follow the Federal law. Thirty-four States include AIDS patients in their definition of handicapped, while Georgia and Kentucky expressly exclude persons with communicable diseases **(260).**

Handicapped persons must be hired or continue to be employed if they can be reasonably accommodated and can perform their work without endangering the health and safety of other workers (29 C.F.R. section 1613.702(f)). In March 1987, the U.S. Supreme Court ruled that a person with tuberculosis was a handicapped person within the meaning of the law and that contagiousness did not automatically remove the person from the Act's protection, but also expressly stated that the Court was not ruling whether a person infected with the AIDS virus (i.e., an AIDS antibody-positive person without disease) would come under the Act's protection (259).

As for drug testing under the Vocational Rehabilitation Act, alcoholics or drug abusers may be considered handicapped within the meaning of the Act only if their abuse does not affect job performance or pose a direct threat to the property or safety of others. An applicant or employee who merely tests positive on a drug screening test probably is not protected by the Act, because a "physical or mental disability" is required (29 U.S.C. section 706(7)(A)), and drug **use has not** limited a major life activity. For example, in McLeod v. City ***of Detroit*** (180), the court found that a recreational user of marijuana was not handicapped, but that persons with a history of drug abuse were intended by Congress to be protected by the Act.

Table 3-1 .—State Legislation on AIDS[a]

State	Antibody testing	Blood	Confidentiality	Employment	Housing	Informed consent	Insurance	Marriage	Prison population	Reporting
Alabama										
Alaska										
Arizona										
Arkansas										
California	CA	CA	CA	CA	CA	CA	CA	CA		CA
Colorado	co		co			co				co
Connecticut					CT					
Delaware	DE								DE	
DC							DC			
Florida	FL	FL	FL	FL			FL		FL	FL
Georqla		GA								GA
Hawall			HI	HI	HI		HI			
Idaho	ID									ID
Illinois	IL	IL	IL					IL		IL
Indiana			IN							IN
Iowa	IA		1A						1A	1A
Kansas										
Kentucky			KY							KY
Loulslana								LA		LA
Maine			ME				ME			
Maryland			MD							MD
Massachusetts			MA	MA		MA				
Michigan										MI
Minnesota										
Mississippi										MS
Mlssourl										
Montana										
Nebraska										
Nevada									NV	NV
New Hampshire										
New Jersey										
New Mextco										
New York			NY							
North Carolina										NC
North Dakota			ND							
Ohio										
Oklahoma	OK	OK								
Oreaon			OR				OR		OR	
Pennsylvania								PA		PA
Rhode Island	RI		RI							RI
South Carolina										
South Dakota		SD								
Tennessee	TN	TN								TN
Texas	TX		TX					TX		TX
Utah								UT		
Vermont										
Virgmla	VA							VA		
Washington										
West Virqirua							w			
Wlsconsm	WI		WI	WI		WI	WI			WI
Wvomma										

[a]The information contained In this chart refers only to legislation and not to administrative regulations, AIDS indicates acquired immunodeficiency syndrome,

SOURCE H.E Lewis, "Acquired Immunodeficiency Syndrome: State Legislative Activity," J. *A.M.A* 258(170):2410-2414, Nov. 6, 1987.

Table 3-2.—1987 State Legislative Activities on Urine Drug Testing

	Enacted	Probable cause or reasonable suspicion	Rebuttal	Confirmatory test	Confidential	Discipline/ dismissal restricted	Employee remedies	Proposed	Probable cause or reasonable suspicion	Rebuttal	Confwmatory test	Confidential	Discipline/ dismissal restricted	Employee remedies	Other	None introduced
Alabama																AL
Alaska								AK	AK	AK	AK			AK		
Arizona								Az								
Arkansas																AR
California								CA	CA		CA	CA	CA	CA		
Colorado								co							co	
Connecticut	CT	CT		CT	CT	CT	CT									
Delaware																DE
Florida																FL
Georgia								GA							GA	
Hawaii								HI								
Idaho																ID
Illinois								IL	IL	IL	IL	IL	IL	Ii-		
Indiana								IN							IN	
lowa	1A	1A	1A	1A	1A	1A	1A									
Kansas																KS
Kentucky																KY
Louisiana																LA
Maine								ME	ME		ME	ME	ME	ME		
Maryland								MD							MD	
Massachusetts								MA	MA	MA	MA			MA		
Mlchlgan																MI
Minnesota	MN	MN	MN	MN	MN	MN	MN									
Mississippi																MS
Mlssour]																MO
Montana	MT	MT	MT	MT	MT	MT										

Table 3.2.—1987 State Legislative Activities on Urine Drug Testing—Continued

	Enacted	Probable cause or reasonable suspicion	Rebuttal	Confirmatory test	Confidential	Dlsclplme/ dlsmlssal restricted	Employee remedies	Proposed	Probable cause or reasonable susplclon	Rebuttal	Confirmatory test	Confldentlal	Dlsclpline/ dlsmlssal restricted	Employee remedies	Other	None introduced
Nebraska								NE	NE		NE	NE	NE			
Nevada								NV							NV	
New Hampshwe																NH
New Jersey								NJ	NJ		NJ	NJ	NJ			
New Mexico																NM
New York								NY	NY		NY	NY	NY			
North Carolina								NC							NC	
North Dakota																ND
Ohio																OH
Oklahoma																OK
Oregon								OR	OR		OR	OR	OR			
Pennsylvama								PA	PA		PA	PA	PA			
Rhode Island	RI	RI	RI	RI			RI									
South Carollna																Sc
South Dakota																SD
Tennessee								TN							TN	
Texas								TX							TX	
Utah	UT		UT				UT									
Vermont	VT	VT	VT	VT	VT	VT	VT									
Virginia																VA
Washington								WA	WA	WA	WA	WA	WA	WA		
West Virginia																w
Wisconsin								WI							WI	
Wyoming								WY							WY	
Total	7	6	6	6	5	5	6	23	11	4	11	9	9	6	10	20

SOURCE: SM. Bannister, "State Statutes Regulating Drug Testing of Private Employ ees, " paper presented at Continuing Legal Education with the University of Kansas on "Drug Testing: Facts, Fears, and Policy Perspectives, " Lawrence, KS, Nov 5, 1987

Title VII of the Civil Rights Act of 1964 (29 U.S.C. section 2000e et seq.), which prohibits discrimination on the basis of race, sex, national origin, and religion, might also apply in limited circumstances, as when testing has a "disparate impact" on members of a protected group. Testing would have to have a "manifest relation to the employment in question" (71), and there must not be available a less discriminatory method that the employer could use (114). The U.S. Supreme Court has ruled in one case that might have found the Civil Rights Act to be applicable, but found that it was not. The New York City Transit Authority disqualified all driver applicants who were on methadone maintenance for heroin addiction. Despite the fact that 81 percent of applicants were either black or Hispanic, the Supreme Court upheld the constitutionality of the Transit Authority's decision (221).

Other Employee Remedies

Most of the following discussion is limited to employees who are represented by unions—that is, these remedies are not available to job applicants and nonunionized employees— with employee rights based on: 1) a duty to bargain with the union before implementing testing programs, and 2) a just cause determination before termination of employment based on positive testing results.

The National Labor Relations Act makes it an unfair labor practice for employers to refuse to bargain with employee representatives over terms and conditions of employment (Sections **8(a)(5) and 8(d)),** and issues concerning worker safety are a mandatory subject of collective bargaining (286). However, a union might be found to have waived its bargaining rights by express language in its contract, by the history of bargaining between the union and the employer, and/or past practice, and courts and arbitrators have been inconsistent in litigation over this issue (105).

Termination of employment will be upheld when it is called for in the contract and when drug testing is conducted under a negotiated program. Moreover, termination has generally been upheld when: 1) the test was conducted when an employee was involved in an accident, 2) when there was a reasonable basis to believe the employee was under the influence, or 3) when the employee had a known substance abuse problem (105)– that is, when the drug testing program was not on a random basis. In addition, arbitrators have tended to require a greater burden of proof for drug-related discharges, then in discharge cases generally, because of the stigmatization of drug use and resulting difficulty in finding other employment (17). For example, some arbitrators have used the standards of "clear and convincing evidence" or "beyond a reasonable doubt" instead of the more easily met standard of "preponderance of the evidence" (19,176). In "mixed motive" cases—for example, when the employer claims that an employee was fired because of a positive drug test when the real reason might be that the employee was actively engaged in union activities—the employer must prove that the action would have occurred regardless of the protected activities **(17,150).**

Generally, the following steps must be taken if employees are to be discharged for drug (and alcohol) use (250):

1. the employee must have had notice of the prohibition and the corresponding penalty,
2. the rules must have been applied fairly,
3. management must have investigated the charges and given the employee a reasonable chance to answer them, and
4. the punishment must fit the crime.

Absent some non-union-based recourse (e.g., drug use as a handicap), nonunionized employees can be terminated at will by their employers when their drug tests are positive. There may be a small possibility, however, that the court may find an employer liable for wrongful termination when such drug-testing-based termination is against "public policy. " While no cases have been litigated on this theory for drug testing, two State courts have reached opposite conclusions when polygraph testing was at issue. An Illinois court saw no clearly expressed Illinois public policy against polygraph testing (48) while a West Virginia court did, despite each employee's written consent to take the test (52).

Tort Law

Some tort law remedies might be available to prospective and current employees. These potential remedies are most applicable to drug testing and are generally applicable only when employers engaged in outrageous practices.

Similar to, but distinct from the general constitutional right of privacy, is invasion of privacy. A successful claim would have to show intentional intrusion on the private affairs of the plaintiff in a manner that would be highly offensive to a reasonable person (231). Consenting to the intrusion, or when the employer has a legitimate interest in testing and acted reasonably, would defeat a claim based on invasion of privacy.

Tort challenges may be avoided through the following procedures (105):

1. publishing the employer's reasons why testing is necessary,
2. providing advance notification before implementing a testing program,
3. obtaining written consent from employees subject to testing,
4. limiting disclosure of test results only to those who need to know, and
5. making testing a; least intrusive as possible.

THE EXTENT OF MEDICAL TESTING BY EMPLOYERS

Medical Examinations

Perhaps the most prevalent type of medical screening required by employers is the general physical examination, including routine medical tests. This requirement is not new, but the National Institute for Occupational Safety and Health (NIOSH) has reported that the percent of employers who require job applicants to pass medical screening examinations increased from 38.5 percent of employers in the early 1970s to 49 percent in the early 1980s. The percent of employers requiring periodic medical exams of their employees also increased over the decade from 14.4 percent to 30.1 percent, and about one-third of collective bargaining agreements include provisions for employee medical examinations and testing (249).

Among private businesses, company size and industrial sector are associated with employee medical examination policies. According to NIOSH'S National Occupational Hazard Survey data from 1972-74, 83 percent of companies with more than 500 employees used a pre-employment medical examination, compared with 49 percent of companies with 250 to 500 employees, and 19 percent of companies with fewer than 250 employees (248). In all plant size categories, employers were more likely to require pre-employment or pre-placement screening rather than periodic monitoring. For example, in large companies (more than 500 employees), where an estimated 83 percent of employees went through pre-employment screening, 65.4 percent were subjected to periodic monitoring (238). A second survey conducted by NIOSH from 1981 through 1983 (the National Occupational Exposure Survey), indicated that the percent of employees who were subjected to pre-employment examinations and periodic monitoring had not changed substantially since the 1972-74 period (238). Companies with industrial hygiene and safety programs, and/or unionized companies, were more likely to provide medical screening than other companies (238).

Variations in the prevalence of medical testing by industry also were relatively consistent in the two surveys. In both surveys, employees in transportation and public utility industries were most likely to have pre-employment examinations; an estimated 82 percent of these employees in 1972-74 and 73 percent in 1981-83. In 1972-74, the manufacturing industry ranked second in pre-employment screening (67 percent of employees screened), followed by the services industry (41 percent screened). In 1981-83, the services industry was second (69 percent of employees screened), followed by the manufacturing industry (62 percent screened).

The two NIOSH surveys included about 4,500 workplaces throughout the United States that were selected to represent a range of plant sizes

and industry types; but they excluded mining, agriculture, Federal and State governments, and businesses not covered by the Occupational Safety and Health Act. Therefore these surveys, which provide the only representative national sample data on medical screening in the workplace, are limited in themselves and do not specifically address the types of diagnostic and predictive medical testing that are the focus of this assessment. The surveys did determine the frequency of blood and urine testing in workplace screenings, although they did not identify the specific types of blood and urine testing that was conducted.

The frequency of laboratory testing in employee screening examinations also varied with company size and industry. An estimated 14.7 percent of all workers who had periodic medical examinations in 1972-74 had blood tests, but in the primary metal industries, the figure was 55.4 percent. Urine testing was included in medical screening for 14.4 percent of all workers and up to 46.7 percent in petroleum and coal product workers in the early 1970s (238, 248). The use of both blood and urine tests in periodic medical screenings increased substantially from 1972-74 to 1981-83. In 1981-83, it was estimated that 36 percent of all workers had blood tests and 35 percent had urine tests. In plants employing more than 500 workers, periodic medical screening in 1981-83 included blood and urine testing for 69 and 66 percent of all workers, respectively. Blood testing was most prevalent in the service industries, where an estimated 60 percent of the workers were screened (238).

In order to examine current levels of preemployment and periodic medical screening in greater detail, data on testing practices by private and government employers as reported in the literature and in recent surveys are summarized below for genetic testing, drug testing, and AIDS antibody testing.

Genetic Testing

One in four workers has been estimated to be exposed to federally regulated hazardous substances in the workplace (12). If this is true, it would appear that biological screening and monitoring could be clearly beneficial to employees in some work settings. However, views about the value of genetic testing depend on whether the tests are used in pre-employment screening, in which case test results could be used to discriminate against job applicants, or in periodic monitoring, which may be extremely costly to employers.

Genetic testing to screen individuals for hypersusceptibility to hazardous materials has been controversial in the past, because genetic traits frequently are associated with particular racial or ethnic backgrounds. The Dupont corporation's routine screening of all black job applicants for sickle cell anemia trait, initiated in 1972, drew so much criticism as a discriminatory practice when it was reported in 1980 that it was discontinued (12,163). Florida, Louisiana, and North Carolina specifically prohibit sickle cell testing; and New Jersey prohibits testing for sickle cell and other genetic traits (e.g., Louisiana Rev. Stat. Ann., Section 23:1OO2(A)(1) West Supp., 1984-85).

A 1982 study by the Office of Technology Assessment (OTA) on the extent of genetic testing in the 500 largest U.S. industrial companies, 50 of the largest private utilities, and 11 large labor unions, found that of the 366 (65.2 percent) organizations responding, 6 (1.6 percent) were currently conducting genetic testing, 17 (4.6 percent) used some of the tests in the past 12 years, 4 (1.1 percent) anticipated using the tests in the next 5 years, and 55 (15 percent) stated they would possibly use the tests in the next 5 years (290). Most of the respondents in the OTA survey were large companies in the manufacturing, mining, or chemicals industries, or in utilities, as noted above. Response to this survey was voluntary, and therefore does not represent the extent of genetic testing by employers nationally.

In 1986, OTA completed a survey of biotechnology companies that were developing or were likely to develop genetic tests for commercial use based on recombinant DNA methods. A questionnaire was mailed to 120 biotechnology companies, and 85 of them responded (291). Twenty companies indicated they were developing such tests, and 16 completed a second, more detailed questionnaire. Of these, 12 were developing or planning

to develop tests (4 had changed their plans since the first survey).

When asked to rate the sites where they expected use of genetic tests to be most important in 1990, the 14 companies rated the following sites in descending order of importance: genetic clinics, health department clinics, health department screening programs, prepaid health groups, private primary care practices, sites such as reference and DNA labs, insurance companies, the military, places of employment, private nongenetic specialty practices, correctional institutions, public schools, and homes. Five of the twelve companies thought it likely by the year **2000 that** insurance companies would be using genetic tests on applicants. Other sources predict that by the year 2000, most people will be getting genetic profiles, possibly through their place of employment, and one company is reported to be testing an employee "wellness" evaluation program that involves computer analysis of family histories and 32 different blood tests for susceptibility to a range of diseases (311).

There was disagreement among respondents to the 1986 OTA survey over whether genetic testing should be mandated under certain circumstances. Seven of twelve companies that were developing tests disagreed with the statement that genetic tests should be required for marriage licenses; but a majority of them (8 of 12) believed mandatory genetic testing may be likely by the year 2000. Although most respondents did not rate places of employment as an important site for genetic testing in 1990,5 of 12 thought it likely that employers would be using genetic tests to screen job applicants by the year 2000. Seven of twelve agreed that the health risks identified by genetic testing could be used appropriately to exclude susceptible workers from hazardous jobs; 9 of 12 thought this use likely by 2000.

In November 1985, the Harris organization conducted a survey on genetic testing by employers and posed the question: Should an employer have the right to force a job applicant to undergo testing for a genetic disorder that would not become symptomatic for 20 years? Of 1,254 adults surveyed, only 11 percent answered "yes" to that question. Only 15 percent of the respondents felt an employer's knowledge of a job applicant's future serious disease was acceptable grounds for that candidate to be denied work. On the other hand, if testing was oriented to diagnosing and curing disease rather than to employment or insurance decisions, about 50 percent of the respondents were willing to be tested for incurable and fatal diseases they would develop later in life (38).

Drug Testing

Various surveys have documented the increasing tendency of both private and public sector employers to screen applicants and to test employees for use of illegal drugs and prescription drugs that are commonly abused. Based on these surveys, perhaps half or more of employers, especially large employers, now test or plan to test for drug use.

The percent of Fortune 500 companies requiring urine drug testing for job applicants and/or current employees increased from about 10 percent in 1982, to approximately 25 percent in 1985, to an expected 50 percent in 1987 (249).

In a 1986 survey by the College Placement Council of its member employers who recruit on college campuses, a clear trend was found in the past 2 to 3 years to implement drug screening programs for job applicants. Of 497 respondents, **140 (28.2** percent) screened applicants, and an additional 97 (19.5 percent) employers planned to implement screening within the next 6 to 24 months (266).

In descending order, the most common reasons given for drug testing among these 140 companies were concerns over workplace safety (by far the most important reason); security; quality/reliability of products; quality of service; increased productivity; control of medical costs; and law, government, or noncompany regulations. The types of employers most likely to test applicants were utilities (37.1 percent); chemicals, drugs, and allied products (9.3 percent); aerosPace (8.6 percent); and petroleum and allied products (7.9 percent). Nearly all (131 of 140) screened all applicants, whether for management, clerical, or technical positions, and most screened applicants

whether they were seeking full-time, part-time, or temporary positions.

Eighty of the 140 companies used only a screening test, while 53 also performed confirmatory testing before informing applicants that they had tested positive for drug use. Nearly all (124 of 140) used a positive test to exclude applicants, although 105 allowed those who failed the test to reapply at a later time.

In a 1987 survey of more than 2,000 employers (91 percent in the private sector) (37), among employers with more than 500 employees, 23 percent tested applicants, and 17 percent tested employees. Among companies with 100 to 500 employees, 14 percent tested applicants, and 7 percent tested employees. Among the large employers, 47 percent in the transportation industry tested, as did 17 percent of those in manufacturing. More than half of those not currently testing were considering it. These trends were found despite the fact that less than 1 percent of employers identified drug abuse as the most serious problem in the workplace. As in other studies, however, larger employers—22 percent in this survey-considered drug abuse as a serious problem in the workplace.

Indirect evidence was also found in this survey that supported the finding in the 1986 College Placement Council survey that most employers were using only screening tests—and not confirming tentative positive results with more specific methods such as gas chromatography/mass spectrometry-before concluding that the applicant was a drug user. Costs of testing job applicants ranged from $10 to $29 per urine specimen for more than half of the employers, while only 25 percent of employers had costs of $70 or more per specimen.

Numerous efforts are also being made at various levels of government to implement or expand drug testing programs, particularly among employees involved in public safety (e.g., police, firefighters), public transportation (e.g., airline pilots, air traffic controllers, bus drivers), and public health (e.g., public health physicians and nurses). Many of these efforts are under legal challenges by employees, labor unions, and the American Civil Liberties Union (ACLU). opponents generally have not challenged probable cause testing, but have objected to:

- mandatory and/or random testing;
- inclusion of the entire work force or broad classes of workers in testing programs; and
- unilateral decisions by public agencies to implement testing without negotiating with unions on whether testing should be initiated, the details of the testing program, and the effects on employees who test positive (e.g., what sanctions should be imposed, and what rehabilitative services will be offered).

At the Federal level, a June 1986 report by the U.S. House of Representatives' Subcommittee on Civil Service, Committee on Post Office and Civil Service, reported that drug testing was already being conducted by the Army, Air Force, Navy, Federal Aviation Administration (in the Department of Transportation), Secret Service (in the Department of the Treasury), and Customs Service (288).

In September 1986, President Reagan issued an Executive Order (310) directing all Federal agencies to institute:

- random urine drug testing programs for employees in sensitive positions,
- reasonable suspicion testing,
- incident-based testing,
- testing as a followup to rehabilitation, and
- job applicant testing.

Subsequently, the Office of Personnel Management issued advisory Federal Personnel Manual Letters in November 1986 (312) and again in March 1987 (313) to assist Federal agencies in implementing the President's order. The Department of Health and Human Services issued Scientific and Technical Guidelines to Federal agencies in February 1987, and published a revised version of these guidelines as proposed regulations in August 1987 (307), with final publication expected by December 31, 1987.

The Department of Transportation (DOT), because it already had drug testing programs for some of its branches (e.g., the Federal Aviation Administration), implemented random testing in September 1987 for all DOT employees with security clearances of top secret or higher, as well as

for air traffic controllers, flight test pilots, electronic technicians, firefighters, civil aviation security specialists, aviation safety inspectors, railroad safety inspectors, Coast Guard drug enforcement personnel, vessel traffic controllers, and motor vehicle operators.

An attempt to win a temporary restraining order by the American Federation of Government Employees was denied by a Federal judge (201). Similar attempts by the National Treasury Employees Union to prohibit implementation of the President's Executive Order until the merits of the issue could be decided by the courts were denied (216).

However, in March 1988, a U.S. District judge in the District of Columbia ruled that the U.S. Army's mandatory random drug testing of civilian employees was unconstitutional, ruling that urinalysis cannot show actual impairment and that the Army's "nonsafety" interests in ensuring a drug-free work force did not warrant overriding Fourth Amendment protections against unreasonable searches (316). The judge's decision was based on the U.S. Court of Appeals for the District of Columbia's ruling a few months earlier that, while drug testing of DC school transportation employees to determine if workers were impaired by drugs was not unconstitutional, urinalysis could not measure impairment. Two days earlier, the U.S. Supreme Court had agreed to consider the National Treasury Employees Union suit that attacked the constitutionality of the Executive Order (215), and which the 5th U.S. Circuit Court of Appeals had upheld (216). Thus, conflicting rulings among different circuits of the U.S. Court of Appeals will now be resolved by the U.S. Supreme Court.

AIDS Antibody Testing

The U.S. Supreme Court decision in March 1987 on the ***Arline* case** indicates that full-blown AIDS will be considered a disability under Federal anti-discrimination statutes and thus will not be acceptable grounds for discrimination in employment, (The Supreme Court decision also runs directly counter to a Justice Department opinion issued just prior to the ***Arline*** decision that concluded that even unfounded fears by other workers would be legitimate grounds for employers to discharge employees with infectious diseases.) It is not clear how this decision affects those who are infected with the AIDS virus but do not have the disease. Other issues that American corporations will have to deal with in relation to AIDS in the workplace include the following (16):

- confidentiality of employees' health data, which is protected in most States;
- the right of AIDS victims to work, as long as they want to work and are able to work, because, in addition to the ***Arline*** decision, almost all States prohibit discrimination against individuals with physical handicaps and disabilities, including AIDS;
- employer-provided benefits and insurance, which provide essential access to medical care for AIDS patients;
- AIDS antibody testing policies;
- fears of contagion among co-workers and the employer's obligation to provide a safe workplace;
- the needs of companies to avoid financial and legal exposure; and
- the effects of AIDS on worker productivity.

Current Policies on AIDS in the Workplace

According to the Centers for Disease Control (CDC), there is no justification for excluding AIDS or antibody-positive individuals from the workplace on the grounds of risks to coworkers, and CDC also recommends against routine testing in the workplace (204). These conclusions have been supported by the American Medical Association (AMA) (9). On October 30, 1987, the U.S. Departments of Labor and of Health and Human Services issued a joint advisory notice to health-care employers on procedures to be followed on "Protection Against Occupational Exposure to Hepatitis B Virus (HBV) and Human Immunodeficiency Virus (HIV)" (307).

In the Federal Government, mandatory AIDS testing has been instituted for all military service applicants and active duty personnel (since October 1985), foreign service employees of the State Department since November 1986, and participants in the Job Corps since December 1986. Additionally, in the summer of 1987, the Public Health Service (PHS) classified AIDS as a "dan-

gerous contagious disease" for immigration and naturalization actions, and the U.S. Senate unanimously passed a requirement for negative AIDS antibody status for immigrants seeking admission to the United States.

Numerous surveys have been conducted on the experience of private employers with AIDS among their workers and on their response to AIDS. These surveys reveal that employers are increasingly encountering AIDS among their workforce. For example, in a January 1986 survey, 18 of 238 employers (8 percent) had known cases of AIDS among their employees (8 of these 238 employers had tested their employees for AIDS antibodies, while 2 had tested job applicants) (46). Another survey reported at the same time showed that 34 of 154 large companies (22 percent) had workers with AIDS (46). In a March 1987 survey, 29 percent of 600 companies had known AIDS cases among their employees (119). In another survey conducted in summer 1987 among 151 Fortune 500 companies, 33 percent of the companies had employees with AIDS, and another 50 percent expected to encounter AIDS in the near future (169).

Generally, companies have rejected AIDS antibody testing for job applicants and employees, but a significant percent of senior management support testing. In a 1985 survey of 861 large private firms, 2 percent of surveyed employers stated that they screened job applicants for AIDS, while another 10 percent were considering it. Those who screened or were considering it were more concentrated in the southeastern United States (120). In a March 1987 ***survey*** of 600 companies (see above), 87 percent of the personnel and benefits administrators stated that they had considered AIDS antibody testing for job applicants, while 9 percent had actually conducted testing. Sixty-two percent of the respondents felt that management would oppose testing for all job applicants, and 15 percent were not sure; but 23 percent felt that management would favor pre-employment testing (119).

Similar results were obtained in another survey conducted in late 1987 (152). Among 101 companies employing between 1,000 to 10,000 people, two-thirds of the companies did not believe that testing would stem the spread of AIDS in the workplace or help control benefit costs. Support of testing also seemed to be inversely related to knowledge of AIDS. Only about one in five (19 percent) of companies that claimed they were extremely or very knowledgeable about AIDS supported testing; 37 percent of companies who reported being somewhat knowledgeable supported testing; and half of companies not very knowledgeable about AIDS supported testing.

Employers generally support education as the best way to deal with AIDS among their employees. However, there is a substantial gap between what employers think should be done versus actually developing educational strategies and programs for their employees. For example, in a survey of Fortune 1000 companies by National Gay Rights Advocates during the winter of 1986-87, of the 164 personnel directors responding (a total of 995 companies were asked to participate), only 30 (18 percent) had written policies on AIDS, and 8 more companies were developing AIDS policies (214). In the March 1987 survey of 600 companies (see above), only 15 percent had an AIDS education program in place (119). In the summer 1987 survey of 151 Fortune 500 companies (see above) in which 33 percent already had AIDS among its workforce and another so percent expected to encounter AIDS in the near future, only 40 percent of the surveyed companies had instituted AIDS information programs for their employees, and fewer than 20 percent had developed policies to help their employees with AIDS (169). In the late 1987 survey of 101 companies (see above), 82 percent strongly believed that companies should be educating their employees about AIDS, but only 28 percent were informing their employees about AIDS or what the company had done to deal with AIDS (152).

Employers also generally have treated AIDS among their employees as they have treated other illnesses. For example, this is the policy of the U.S. Office of Personnel Management (OPM). (See box 3-A for OPM'S position on health and life insurance.)

Many employers who find they have employees with AIDS try to accommodate those individuals so that they can continue to work as long as possible and keep their health benefits cover-

Box 3-A.—U.S. Office of Personnel Management Policy on Insurance and AIDS

HIV-infected employees can continue their coverages under the Federal Employees Health Benefits (FEHB) Program and/or the Federal Employees' Group Life Insurance (FEGLI) Program in the same manner as other employees. Their continued participation in either or both of these programs would not be jeopardized solely because of their medical condition. The health benefit plans cannot exclude coverage for medically necessary health care services based on an individual's health status or a pre-existing condition. Similarly, the death benefits payable under the FEGLI Program are not cancelable solely because of the individual's current health status. However, any employee who is in a leave-without-pay (LWOP) status for *12* continuous months faces the statutory loss of FEHB and FEGLI coverage but has the privilege of conversion to a private policy without having to undergo a physical examination. Employees who are seeking to cancel previous declinations and/or obtain additional levels of FEGLI coverage must prove to the satisfaction of the Office of Federal Employees' Group Life Insurance that they are in reasonable good health. Any employee exhibiting symptoms of any serious and life-threatening illness would necessarily be denied the request for additional coverage.

SOURCE C Homer, Director, U.S. Office of Personnel Management, Memorandum on "Acquired Immune Deficiency Syndrome (AIDS) in the Workplace Guidelines for AIDS Information and Education and for Personnel Management Issues," Washington, DC, March 1988.

age through the company's plan (152,169,214). In one survey, if a coworker objected to working with an employee with AIDS, 8 percent of respondents said they would move the employee with AIDS; 14 percent would move the coworker; 29 percent would insist that the situation continue unchanged; and 3 percent would take none of these actions. Forty-six percent were not sure what they would do (119).

Finally, there are indications that AIDS-related health care (and disability and life insurance) costs may be increasing for some employers as more of their employees develop AIDS. In a 1985 survey, the costs of treating AIDS patients, while quite high for the individual patient, did not appear to be a major issue for employer health plans (120). However, in a survey in late 1987, companies with AIDS cases reported an increase in expenditures for health care from AIDS of 4.5 percent, with expenditures for AIDS expected to increase an additional 16 percent by 1990 (152). The highest percentage increases among these companies were for life insurance costs, up nearly 28 percent from AIDS, but employers expected to gain more control over these costs so that increases in life insurance costs would be limited to 7 percent by 1990.

Further information on employer responses to AIDS are summarized in the next section.

EMPLOYER-PROVIDED HEALTH BENEFITS

The single most important source of health insurance for Americans is private coverage offered to workers and their dependents by employer-based health benefit plans. In addition to health insurance, employee benefits include life insurance, disability insurance, and paid time off for sick leave and vacations that represent nonwage (and hence, non-taxable) income for workers.

For a substantial share of workers with employer-provided health benefits, the employer still pays the insurance premiums for a comprehensive package of inpatient and outpatient services (or full costs, if the company is self-insured), often including mental health services, dental care, and vision care. With the high rates of health care cost inflation since the mid-197&, however, and the increased health insurance premiums that have accompanied these rates, employers increasingly have sought ways to shift more of the costs to their employees. This trend has been pronounced since 1980, to the extent that health care cost con-

tainment is now a major objective of most companies that provide health care benefits for their employees.

In this cost containment environment, questions have been raised over how employers might respond to the ability to identify and exclude workers and prospective workers who may or would be likely to have exceptionally high health care costs, such as drug or alcohol abusers, or individuals with AIDS, ARC, or HIV infections. Employee drug testing, and especially pre-employment screening for drug use, have become relatively common, particularly among large businesses. How employers will deal with AIDS-related illnesses in the future is not yet clear (see above).

Information on Employee Health Care Benefits

Data sources on employer-provided health benefits do not specifically address the issue of testing for genetic conditions, drug use, or HIV infections. The few questions relating to services for these conditions deal primarily with availability of drug and alcohol therapies and mental health services in employee assistance programs. Other sources suggest, however, that case management approaches such as are being applied to a variety of high-cost cases are being considered for AIDS patients, who would also benefit from expanded nursing home, hospice, and home health care services.

The only surveys of employee benefits in the private sector, including health benefits, that is based on a selected, nationally representative sample that has been repeated consistently in order to detect trends, are the surveys conducted by the U.S. Department of Labor's Bureau of Labor Statistics. This survey was initiated in 1979 and conducted annually since then. The survey was designed to provide data to the U.S. Office of Personnel Management on employee benefits in the private sector, as part of a new approach to evaluating the pay and benefits of Federal employees. The survey covers approximately 1,500 medium and large private sector firms that paid for employee benefit plans wholly or in part. The survey excludes firms that do not offer health and other employee benefits. The minimum size for included firms is 50, 100, or 250 employees, depending on the industry, and only full-time employees are counted. Thus, the surveys focus on large firms: 61 percent were companies with 1,000 or more employees, and 6 percent of the company plans covered at least 25,000 workers. Union and nonunion firms are included. The industries were grouped as follows: 1) mining; 2) construction; 3) manufacturing; 4) transportation, communications, electric, gas, and sanitary workers; 5) wholesale trade; 6) retail trade; 7) finance, insurance, and real estate; and 8) selected services.

An analysis of a sub-sample of the 1979 and 1984 surveys, based on data from 209 employee health plans in 173 companies that participated in both surveys, found that most employers had (98): 1) increased employee shares of costs, 2) modified plans to encourage use of less costly services, and/or 3) improved some benefits (e.g., more than half of the 209 plans increased the maximum lifetime payments under major medical plans).

In the 5 years between the 1979 and 1984 surveys, all but 11 of the 209 health benefit plans changed at least one feature. Plans were frequently redesigned to reduce basic coverage. More than one-fifth increased the deductible (the amount paid out-of-pocket by employees) in major medical policies, after which the plans typically paid 80 percent of covered charges, leaving 20 percent copayment by the employee. Twenty-eight plans eliminated first dollar coverage for surgery by 1984, and 91 plans (44 percent) required second opinions before elective surgery. Some plans provided more coverage for alternatives to costly inpatient care; for example, 34 plans increased coverage for extended care facilities (non-custodial care in a nursing home), and 62 plans introduced home health care benefits. Eleven of the 209 plans offered the option of coverage through health maintenance organizations (HMOS) in both 1979 and 1984.

In both 1979 and 1984, the majority of employers paid all of the health insurance premiums for their employees. However, for those plans requiring employee cost-sharing, employee contributions nearly doubled in the 5-year period. Finally, employers sought to contain health care

costs not only by modifying their plans, but also by changing their methods of funding. Although commercial insurers (and Blue Cross/Blue Shield (BC/BS)) continued to be the most common method of funding benefits, the number of self-insured major medical plans more than doubled between 1979 and 1984, from 27 to 65.

In the most recent Bureau of Labor Statistics (BLS) survey conducted in 1986 (309), large and medium sized firms, which traditionally have been the most generous in providing employee benefits, offered health insurance benefits to 95 percent of their employees. Virtually all employees with health insurance (99 percent) were covered for hospital care, physician care, diagnostic laboratory and x-ray studies, prescription drugs, and private duty nursing. Only 54 percent of employees were covered entirely at their employers' expense, compared with 61 percent in 1985. The percent of employees with fully paid coverage for their families declined from 42 percent in 1985 to 35 percent in 1986. In 1986, employee contributions averaged $13 and $41 per month for individual and family coverage, respectively, an increase of 6 and 8 percent, respectively, from 1985. In contrast, modest increases in the percent of employees covered for alcoholism treatment (from 68 to 70 percent) and for drug abuse treatment (from 61 to 66 percent) occurred between 1985 and 1986.

The trend to less expensive nonhospital care continued in 1986. The availability of home health care increased from 56 to 66 percent of plan participants between 1985 and 1986; hospice care coverage rose from 23 to 31 percent. Enrollment in HMOS and preferred provider organizations (PPO) increased; enrollment in such programs were 5 percent in 1984, 7 percent in 1985, and 13 percent in 1986. Coverage by commercial insurers and BC/BS declined from about 80 percent of employees in 1980 to 50 percent or less in 1986. Self-insured plans for major medical plan participants increased from 38 percent in 1985 to 45 percent in 1986.

The Bureau of Labor Statistics has noted that the Consolidated Omnibus Budget Reconciliation Act of 1985 (COBRA) could affect many employer-provided health insurance plans. (COBRA requires extension of health plan coverage for at least 18 months for terminated or laid-off workers, who would pay up to 102 percent of premium costs.) BLS noted that its 1986 survey was conducted immediately prior to the enactment of COBRA. In the 1986 survey, 46 percent of participants were in firms which either discontinued insurance immediately upon layoff, or which had no established policy. Thirty-four percent were eligible for coverage paid at least in part by employers, and most of the remaining participants could continue coverage at their own cost. However, regardless of financing, continuation periods were usually 6 months or less, and only 4 percent were in plans that extended health insurance coverage indefinitely (308). (Group health insurance coverage continued after retirement for 72 percent of employees.)

Because factors such as employer size, location, and industry can affect the types and extent of health benefits offered, and because of business concerns over health care cost inflation, a number of private surveys of employer-provided health benefits have been conducted. Many of these surveys have focused on benefit costs and the prevalence of cost-containment activities. The results of these surveys are generally similar to the BLS surveys.

A January 1986 survey of 861 large private companies (also summarized above for their AIDS policies (120)), based on 1985 data, found that most companies had shifted more costs to employees through increased cost-sharing and incentives to use less expensive services and settings. Fifty-six percent of the surveyed companies offered at least one HMO/PPO option.

Surveys were conducted from 1979 through 1984 on 250 major private employers, 68 percent in the Fortune 100 companies, and 32 percent in the Fortune 500 companies, and covered medical and other benefit plans for salaried employees only (132). The report did not specifically address AIDS, pre-employment screening, or self-insurance (although given the large size of the firms surveyed, it is likely that the majority did self-insure), but focused on health care cost containment efforts in the private sector. Major findings

on trends in employer-provided health benefits were as follows:

1. there was significantly more employee sharing of hospital and surgery costs in 1984—the percent of plans with 100 percent reimbursement for hospital care declined from 89 percent in 1979 to 50 percent in 1984;
2. there were significant increases in front-end deductibles-52 percent of the plans required them in 1984, compared with 17 percent in 1979;
3. there were dramatic increases in annual deductible amounts, with maximum deductibles set per family;
4. the use of maximum employee out-of-pocket limits increased to the point that in 1984,86 percent of the plans had such limits; and
5. by 1984, more plans included incentives for employees to make less costly health service choices.

Similar surveys in 1985 and 1986 (133) showed continued trends in cost containment. In the 1986 survey, which included 812 major U.S. employers, 64 percent of the companies required front-end deductibles for medical expenses, up from 54 percent in 1985. The most common deductible was $100 per employee per year (in 32 percent of companies), but the trend was to higher deductibles; for example, $150 and $200 per year. Among the most common cost containment strategies were incentives for outpatient surgery (54 percent of plans), second surgical opinions (57 percent of plans), and outpatient tests prior to hospital admission (49 percent of plans).

A 1986 survey included nearly 1,500 employers in 36 States that responded voluntarily to a questionnaire mailed through local business coalitions (151). The companies employed about 4.4 million employees. The survey asked about overall health care costs per employee, self-insurance by size of company, and health maintenance organization costs compared with insured plans.

The survey found that employee health benefits cost employers an average of nearly $1,900 per employee per year, which was an increase of 7.7 percent over 1985. Costs per employee were highest in the Pacific region ($2,147), but had increased most significantly in New England (by 9.9 percent). Average annual employee costs increased with company size. Costs were highest in the utilities industry (followed, in order of importance, by diversified companies, mining/construction, and consumer products) and lowest in wholesale/retail trade. Employers with 50 percent or more of their employees under collective bargaining agreements had an average annual cost per worker of $2,255, compared with an average of $1,764 for employers with fewer than 50 percent unionized employees.

Employee contributions to the cost of health plan premiums were required by 41 percent of the companies for individual coverage and by 70 percent of the companies for family coverage. Fourteen percent of the companies required employees to pay the total costs of health coverage. Employee health plans in 91 percent of the companies required a deductible, and in 40 percent of the plans that required a deductible, the amount was $150 or more. Forty percent of the employers had built-in incentives to obtain second opinions for surgery, while 59 percent imposed penalties for not doing so. However, 74 percent of the employers with second opinion surgical programs did not know if the program had produced savings.

Forty-six percent of respondents were self-funded for employee health benefits. An additional 18 percent of the respondents used minimum-premium insurance arrangements, and 26 percent purchased experience-rated health insurance. The percent of companies that self-funded employee health benefits increased in direct proportion to company size. Only 31 percent of employers with fewer than 500 employees (the smallest size category in this survey) were self-insured. Firms in all size groups of 1,000 employees or more exceeded the self-funded average of 46 percent. Seventy-five percent of the largest firms (30,000 employees or more) were self-insured. Commercial insurers and BC/BS continued to administer benefits for most self-insured plans (49 and 30 percent, respectively), but 21 percent of the survey respondents used third party administrators for some or all of their claims, and 11 percent of the companies self-administered at least part of their plan.

Fifteen percent of responding employers offered a PPO option, which they claimed reduced total

benefit plan hospital costs by an average of 11.4 percent. Fifty-four percent of all respondents offered at least one HMO option (smaller companies, fewer than 500 employees in this survey, were less likely to offer HMO options), but 68 percent of those that did, reported that HMO rates were as high or higher than their indemnity rates. Only 42 percent of the employers agreed that HMOS were effective in controlling costs.

In terms of health benefit plan design, 86 percent of the plans covered outpatient surgery, 79 percent covered home health care, and 64 percent covered hospice programs. Sixty-two percent of respondents offered retiree health plan coverage.

The survey asked two questions specifically about AIDS: how many employers were measuring the cost impact of AIDS and ARC cases on their health plans; and how many employers were modifying their health plan design (whether by expanding or limiting services was not specified) to deal with AIDS? Among all respondents, 3 percent of the employers reported measuring the cost impact of AIDS, and 2 percent indicated they were modifying their health plan designs. Percentages of employers measuring the cost impact of AIDS, by geographic region, were as follows: 5 percent in the south central and south Atlantic States; 2 percent in the mid-Atlantic and Pacific regions; and 1 percent in mountain, north central, and New England areas. Companies in the mid-Atlantic and south Atlantic regions (3 percent) were more likely to be modifying their health plans than other regions.

By industry, 11 percent of companies in communications were measuring the impact of AIDS, but none were modifying their health plans. Seven percent of employers in the education field measured cost impact, and 10 percent were modifying their health plans. Employers in the utilities, transportation, and insurance industries also were more likely than average (6 percent of companies in each industry) to measure the costs of AIDS and ARC. Companies in the 10,000 to 20,000 employee size group were most likely to measure AIDS cost impacts (10 percent), followed by companies in the 5,000 to 10,000 employee group (8 percent). There was less variation in the percentages of companies by size group that were modifying their health plans, however, with all sizes ranging from 1 to 3 percent on this question.

A 1986 Group Benefits Survey examined health, disability, death, and retirement benefits offered by 1,418 employers in 50 States (323). The companies surveyed covered more than 6 million salaried employees (about 10 percent of the U.S. workforce). This survey is the most useful of the private surveys because it is the largest, and its sample was selected to represent the location, size, and industry distributions of all U.S. employers. More small businesses were included in this sample than in the other surveys (a quarter of the sample was firms with 10 to 249 employees, and an addtional one-third of surveyed firms had 250 to 1,000 employees), including the BLS surveys, which focus on medium and large firms.

In addition, since 1974 these Group Benefits Surveys have been conducted every 2 years to provide trend data for a core group of employers. The 1986 survey, for example, presents trend data for 263 employers studied in 1982, 1984, and 1986, and included the following findings:

1. 55 percent of comprehensive health plans required employees to pay deductibles higher than $100, an increase from 9 percent in 1982;
2. the number of major medical and comprehensive health plans requiring employee contributions increased by 19 and 26 percent, respectively, since 1982;
3. 60 percent of employers self-insured their plans in 1986, compared with 40 percent in 1982.

Benefits in self-insured health plans most often were administered by insurance carriers.

In 1986, 70 percent of the employers provided comprehensive medical plans, and more than 60 percent offered an HMO/PPO option. Fifty-one percent of the employers provided medical and death benefits for retired workers, although 10 percent of employers were considering reducing those benefits.

The main focus of the 1986 survey was on employer health cost containment strategies. Health costs averaged $1,460 per employee, and represented 8 percent of the total covered payroll (all

group benefits combined represented an average 16 percent of payroll). Health costs per employee were higher than average for the smallest firms (1 to 99 employees, which averaged $1,554 per employee) and for those with more than 5,000 employees (average costs, $1,522). This survey found, as did the other surveys, that employers are shifting a growing share of health care expenditures to their employees, and at the same time are taking steps to encourage the use of fewer and less costly medical services. Ninety-seven percent of employers applied at least one approach to health cost containment (e.g., outpatient treatment, preadmission testing), and more than a third applied 10 or more specific methods. Eighty-eight percent of the companies reported achieving a reduction in plan costs (averaging 13 percent) since implementing cost controls.

The most commonly used cost containment methods in 1982 and 1986 (for the core group of 263 emp]oyers) were use of ambulatory surgical facilities, preadmission testing, extended care facilities, and second opinion surgery programs. The greatest increases in use of specific methods from 1982 to 1986 were in home health care (offered by 7 percent of plans in 1982, 75 percent in 1986) and hospice care (an increase from 15 percent to 55 percent). In 1986, 26 percent of all 1,418 plans offered employee assistance programs; 67 percent covered alcohol abuse treatment; 63 percent covered drug abuse treatment; and 6 percent offered health risk screening.

There was also a clear trend toward self-insurance of employee health benefits. The breakdown of group health plan funding and administration was as follows: self-funded, carrier administered, 27 percent; minimum premium, carrier administered, 22 percent; fully-insured, carrier administered, 21 percent; self-funded, self-administered, 8 percent; and other, 2 percent. The percent of employee health plans provided through commercial insurance carriers declined from 57 percent in 1978, to 42 percent in 1982, 33 percent in 1984, and 22 percent in 1986. over the same period, self-insured medical plans increased from 23 percent to 49 percent of all plans.

In the view of staff involved with the surveys, most businesses have not yet taken action to monitor employees with AIDS because most have not had experience with such employees. At this point, most intend to treat AIDS and ARC in the same manner that other catastrophic conditions are treated; that is, in most firms, such services will be covered by the group health plan. The question that has not yet been answered, is the effect AIDS may have on the costs of catastrophic insurance and on the costs of stop-loss policies that are especially important to self-insured firms (194).

A final source of information is the Health Care Financing Administration (HCFA), which surveys employers to develop data for its estimates of national health care expenditures. One of its surveys focuses on independent health plans, which are either fully or partially self-insured, or operate on a prepaid basis. The most recent analysis of independent health plans, surveyed in 1984 and reported in 1986, found that 8 percent of all employment-related health plans were self-insured, representing about 175,000 self-insured plans and covering more than so percent of all employees with health benefits. Among employers that self-insured, 23 percent self-administered their plans and the remaining 77 percent used a commercial carrier, BC/BS plan, or third party administrator (TPA) (178).

The striking difference between the 8 percent prevalence of self-insurance found in the HCFA survey and estimates in the area of so percent reported by the Bureau of Labor Statistics and private consulting firm surveys can be explained by the size of the firms included in the different surveys. The HCFA survey sample represented the more than 90 percent of employers that have fewer than 100 employees and therefore rarely self-insure; in the HCFA study, only 6 percent of emp]oyers with fewer than 100 employees self-insured (178). HCFA in fact compared its findings with those of other surveys and found that the findings were consistent, because the other surveys were weighted toward the larger companies. Companies included in the BLS surveys, for example, must have at least 100 or 250 employees, depending on the industry. The HCFA survey found that in 1984, one-third of employers with more than 100 employees, more than one-half of employers with 250 and more employees, three-

fourths of employers with 1,000 or more employees, and four-fifths of those with 5,000 or more employees were partially or fully self-insured (178).

In the HCFA survey, private businesses and unions were more likely to self-insure than other organizations, such as religious organizations, governmental units, and post-secondary schools. Seventy-four percent of all businesses with 1,000 employees or more, and 83 percent of unions with 1,000 or more employees self-insured their health benefits. All organizations that self-insured were more likely to self-insure hospital and medical benefits than dental or vision care.

In 1984, 23 percent of self-insured organizations also self-administered their benefit plans, while 51 percent used a TPA, 6 percent contracted with BC/BS, and 20 percent used the administrative services of a commercial insurer. TPAs were the preferred administrator for smaller self-insured firms, and small business is the area where the greatest future growth in self-insurance is expected. TPA administration may be less expensive, according to a study noted by HCFA, which found that TPAs spent about $1.75 per month per employee on claims processing and $1.75 per month on corporate overhead, while commercial carriers spent $4.75 per month on claims processing and $1.25 per month on corporate overhead. The HCFA survey also found that businesses (24 percent) and unions (35 percent) were more likely to self-administer their benefits than other types of organizations.

The likelihood that an employer-provided health plan will offer a HMO/PPO option increased with employer size, ranging form 3 percent of plans for fewer than 100 employees offering the option to 87 percent of plans of 50,000 and more. HMO/PPO options were offered by 4 percent of all organizations (including 4 percent of businesses), but by 15 percent of unions, 14 percent of religious organizations, 35 percent of post-secondary schools, and 10 percent of governmental units.

HCFA found that preliminary data and anecdotal evidence suggested that employees covered by self-insured health plans have less generous medical, surgical, and other benefits (178). The HCFA Division of National Cost Estimates plans further work to study the extent to which the benefits provided by self-insured health plans differ from those of private insurance plans, which must comply with State-mandated benefits requirements (177).

The HCFA report added that the Employee Benefits Research Institute "found that employer contributions in 1984 for health care—which includes premiums paid to insurers and medical claims payments by self-insured employer — equaled 2.57 percent of the gross national product, down from 2.63 percent in 1983, " although the decline might be attributable to other factors.

Self-Insured Employee Health Benefit Plans

Self-insured employers assume full responsibility for their employees' actual health care expenses, or limit their liability with "stop-loss" insurance against high-cost cases. Self-insurance has other implications for AIDS patients; because self-insured plans are exempt from State insurance regulations, including State mandated benefits, they may be able to selectively limit plan coverage, for example, excluding services for AIDS patients. State mandated benefit laws are intended to protect workers from arbitrary benefits exclusions in their employer-provided health plans and to encourage more comprehensive health coverage. Some employers already have tried to fire employees with AIDS or to exclude AIDS coverage from their insurance policies. Most employers, however, have stated that AIDS would be treated no differently from other diseases, while other employers have not determined what their policies toward AIDS employees will be.

The rapid growth of self-insurance does raise special concerns related to medical testing in the workplace. Medical conditions such as AIDS and ARC could affect self-insured employers differently than employers with conventional insurance, and self-insured employers have different means of responding to the problems of high-cost employee health benefit claims.

While turning to self-funding, however, the majority of employers continue to contract with commercial carriers and BC/BS plans for claims processing and administrative services. A large

share of self-insured employers also purchase stop-loss insurance to limit the amount of their liability for medical claims. Administrative services contracts have expanded from 5 percent of private insurance before 1975 to 25 percent by 1980 and nearly 50 percent by 1984, and 1983 data indicate that 60 percent of the business of the 10 largest commercial carriers came primarily from administrative services and minimum premium plan arrangements (83).

Growth of self-insurance, and especially its rapid advances since about 1980, can be attributed largely to two factors: 1) the continued high health care cost inflation that has increased health insurance premiums by as much as 30 percent per year; and 2) the exemption of self-insured plans from State insurance regulation (including State insurance premium taxes) and State mandated health benefits (159,251). The extent of self-funding among businesses of various sizes and industries as determined by several of the private employee health benefit plan surveys (described above) are in the range of so percent, with larger firms much more likely to self-insure than smaller companies (fewer than 100 to 250 employees). For example, in one survey, 70 percent of employers with 10,000 to 20,000 employees self-insured (151). Other estimates of the percent of companies that self-fund fall between 50 and 60 percent, with expectations that by the 1990s, the value of self-insured plans will exceed the combined value of all commercial plans and will approximate that of the combined Blue Cross plans (251).

As a result of this trend to self-insurance, new types of service companies are emerging as competitors of traditional insurers for the business of administering employer plans. For example, one type of company may specialize in reinsurance, the stop-loss coverage that many self-insured employers need. The TPA industry has grown along with self-insurance to provide claims processing services. In 1984, TPAs served about 6,700 self-insured employers with more than 5 million employees (83). TPAs have become such an important factor in self-insured plan administration that large insurance companies are beginning to buy them up. Other firms are specializing in automated data processing services.

Small businesses, in particular, are likely to turn to TPAs when setting up self-insurance health benefit plans. Perhaps half of all businesses with fewer than 500 employees rely on TPAs for benefits administration (172).

The range of services provided by a TPA can be negotiated according to employer needs, but most employer-TPA contracts provide for medical claims processing; cost control programs, including utilization and charges review; selection of appropriate stop-loss insurance; monitoring of Federal and State regulations, and other administrative functions, such as data processing and reporting. TPAs may also work directly with the employer to design the benefits package.

The term “third party administrator” was originally used in the Taft-Hartley legislation of 1947 to designate an entity that is neither union nor management, but that administers joint labor-management welfare and pension funds. There were relatively few TPAs performing this function until the late 1970s, when administrative services for self-insured benefit plans began to develop as a market. There are approximately 1,500 TPA firms operating today, although relatively few of them are qualified, full-service TPAs (172).

The exemption of self-insured health benefit plans from State insurance regulations and mandated benefits as a consequence of judicial interpretation of the ERISA (Employee Retirement and Income Security Law) law of 1974 does not mean that self-insured plans are entirely unregulated. Exemption from State regulation means that self-insured plans are subjected to Federal regulation through the Department of Labor and the Internal Revenue Service. Federal regulation to date, however, has been slight, and for that reason, the need to amend ERISA to eliminate the self-insured plan exemption (and to make them subject to contributions to State high-risk insurance pools) has been debated for several years. TPAs that administer self-insured employee benefit plans are regulated in 23 States in much the same way that insurance companies are regulated, with emphasis on ensuring plan solvency (in these States, TPAs must be bonded and pass financial stability requirements) (54,172).

In 1984, ERISA was amended to allow States to regulate multiple employer trusts (METs), but Congress has not taken action to further amend ERISA to clarify or eliminate the distinction between insured and self-insured health plans. In the 1985 COBRA legislation that required employers to provide continuation coverage for laid-off and terminated employees, however, self-insured health plans were required to participate along with other insured plans.

A company may take a variety of approaches in self-funding its employee health benefits. While assuming liability for employee health expenses, a company may contract with a commercial insurer for an administrative services only (ASO) contract, including claims processing and overall administration. Or a company may contract on a similar basis with a TPA. A company may also decide to both self-fund and self-administer its plan, but this option is selected primarily by very large corporations. The most common approach is for the company to establish a health benefits fund and then take bids for the desired administrative services. The company may or may not purchase stop-loss insurance for protection against catastrophic risk, but the smaller the company, the more necessary stop-loss insurance will be; without stop-loss insurance, size would limit the companies that could exercise the self-insurance option.

The choice of using a minimum premium plan depends on where the employer does business, because some States consider these plans as insurance, and regulate them. Minimum premium plans provide for employers and insurers to share the cost risk, with a limit on employer liability, and with payments to the insurers for administrative costs and risk sharing much like insurance premiums (251).

The advantages to the employer of self-funding include the following:

- exemption from State insurance premium taxes (usually 2 percent of premiums);
- no payment for carrier overhead, including marketing, sales, and profit (administrative costs of a self-insured plan are lower than the retention charges of an insured plan);
- ability to earn interest on the health benefit fund and regulate cash flow to the employer's advantage (the employer may fund the paid claims on an ongoing basis rather than paying a year's insurance premium in advance);
- savings may accrue from employer management and utilization review of medical claims, and self-insured employers only negotiate administrative costs with their carriers or TPAs, not premium rates and claim projections;
- health plan savings due to exemption from compliance with State mandated benefits (most State insurance laws and regulations apply to insurance contracts and not to self-insured benefit plans); and
- exemption from contributions to State high-risk pools, where they exist.

Disadvantages include:

- the self-insuring employer may be exposed to greater financial risk in the form of aggregate claims in a bad year or a few catastrophic cases;
- by contracting for administrative services only, the employer gets less expertise than he would get as a fully insured client, or would require more staff with specialized health benefits expertise; and
- the employer loses the insurance company as a buffer between the employer and employees in disagreements over claims coverage (327).

The most significant of the employer's disadvantages in self-funding is the assumption of risk, which is why stop-loss insurance is an attractive added protection for many self-insured firms. Stop-loss insurance is most often purchased for medium-sized health plans of 200 to 1,000 employees (327). Among companies with 500 or fewer employees, 25 percent self-insure with stop-loss coverage, while only 6 percent assumed full risk (151). Thirty-five percent of companies with 500 to 1,000 employees self-insure with stop-loss, and 7 percent went without stop-loss coverage; while 41 percent of companies with 1,000 to 2,500 employees self-insure with stop-loss, and 15 percent go without it (99).

The two types of stop-loss insurance are: 1) specific stop-loss, which reimburses the employer for

claims for any individual employee that exceed a specified amount; and 2) aggregate stop-loss insurance, which reimburses the policyholder if total claims paid for all employees exceed a predetermined deductible, for example, 125 percent of expected claims. Both forms of stop-loss are written with high deductibles to keep the stop-loss premium relatively low. The cost of stop-loss insurance can vary substantially from one policy to another, depending on such factors as plan design (level of deductible and maximum benefit) and competition among stop-loss insurers, who may evaluate risk differently based on medical costs by geographic area, inflation factors, the range of benefits in the employer's primary plan, the employees' age distribution, and the employer's recent experience (327).

Employment "Wellness" Programs

In a 1985 telephone survey of 1,358 worksites with 50 employees or more (306), 65 percent of worksites had at least one health promotion activity. Thirty-six percent had smoking control activities; 27 percent, stress management programs; 22 percent, physical fitness activities; 17 percent, nutrition activities; and 15 percent, weight control activities (box 3-B).

Such employment-based "wellness" programs often include health risk appraisals (HRAs) in efforts to reduce the costs associated with preventable chronic illnesses (109). Over 200 organizations now offer HRAs to employees, patients of medical care organizations, students, and to the general public. An HRA is a health promotion technique that involves three procedures:

1. measurement of risk factors of the individual through the use of a personal inventory of health habits and, in many cases, a number of clinical measurements (e.g., blood pressure, serum cholesterol, height, weight, etc.);
2. estimation of the individual's expected risk of death from specific causes or diseases based on his or her personal risk factors, epidemiologic data, and national mortality statistics using actuarial techniques; and
3. presentation of these risk estimates to the individual, with a discussion of how selected changes in personal lifestyle and health habits could possible affect health risks (128).

For example, one company (70) is pilot-testing a program in which information from a health history questionnaire and a number of predictive tests are used to tailor health risk information to individuals. As part of the pilot study, the company is offering voluntary, confidential testing to members of an employee group. Predictive tests are being validated for a number of disorders, including cardiovascular disease, diabetes, cancer of the breast and colon/rectum, and periodontitis. When the program is implemented, information from the computer-analyzed family and personal medical history will be used to select appropriate tests for each employee. Information from the tests and the health history will be used to provide individualized health education to participants. This company has expressed an interest in future use of genetic and biologic markers for chronic disease (e.g., genetic markers for heart disease) but will limit testing to diseases in which some form of primary or secondary intervention is possible.

Criticisms of HRA techniques include:

- information is provided regarding risk of death but not risk of disease;
- epidemiologic bases of risk estimation do not exist for groups other than white, primarily middle-class individuals;
- self-reported behaviors and risk factors used in the assessments may not be reliable; and
- there is insufficient evidence that changes in specific risk factors actually reduce the risks of developing certain diseases or of death from specific causes (300).

There is, however, evidence that self-reported risk factors and behaviors are predictive of an individual's future health care costs. One actuarial firm has related health risk and health behavior information (i. e., exercise, weight, smoking, hypertension, alcohol use, cholesterol level, and seat belt use) collected from employees participating in a health promotion program to their medical claims co;ts and hospital inpatient days. Age and sex were controlled for in the analyses, and cost data were adjusted for geographic variation. In many cases, significant differences were noted

Box 3-B.—National Survey of Worksite Health Promotion Programs, 1985

In **1985,** the U.S. Department of Health and Human Services (DHHS) conducted a National Survey of Worksite Health Promotion Activities: 1) to determine the nature and extent of worksite health promotion activities in worksites of .50 or more employees; 2) to determine what employers perceive as the direct and indirect benefits of their efforts to prevent disease and promote employee health; and 3) to monitor progress toward the worksite health promotion goals set forth in DHHS'S 1990 Health Objectives for the Nation.

DHHS concluded that: 1) many employers have recognized the benefits of instituting health promotion activities for their employees; 2) employers also acknowledged that these activities also enhanced company image and improved employee morale and performance; and **3) few negative** effects resulted from instituting these activities.

Major findings of the survey included:

- Over *85* percent of surveyed worksites with health promotion activities indicated that all employees at the site were eligible to participate. Approximately 30 percent also made the activities available to dependents, and the same percent offered activities to retirees;
- *65* percent of worksites surveyed had at least one health promotion activity; smaller worksites were less likely to have health promotion activities;
- **36** percent of all worksites surveyed had smoking control activities;
- *27* percent of all worksites surveyed offered stress management activities;
- 22 percent of all worksites surveyed had some form of physical fitness or exercise activity;
- Fewer of the worksites surveyed offered activities related to nutrition (17 percent) or weight control (1.5 percent), even though 43 percent of these worksites had a cafeteria with an onsite cafeteria manager.
- An overwhelming majority of respondents indicated that benefits of their activities outweighed or equaled the costs. Only a small percentage said that costs outweighed benefits or had other negative comments; and
- Over 81 percent of respondents said they were extremely or moderately concerned with health care cost management.

SOURCE U S Department of Health and Human Services, Publlc Health Serwce, Office of Dwease Prevention and Health Promotion, Natlona/ Survey of Work.ite *Health Promot,on Actl\l/Jes (Silver* Spring MD ODPHP, **1987)**

between high- and low-risk employees' medical costs. For example, those reporting systolic blood pressure of 159 mmHg or higher and a diastolic pressure of 94 mmHg or higher were 68 percent more likely to have annual claims of more than $5,000 than those reporting normal blood pressure. (High blood pressure is defined as a systolic pressure greater than or equal to 140 mmHg and/or a diastolic pressure greater than or equal to 90 mmHg.) The largest difference in hospital utilization was associated with seat belt use; high-risk employees in this category used 54 percent more hospital days per thousand than those regularly using seat belts (199).

Conclusions on Employer-Provided Health Benefit Plans

The majority of employers provide comprehensive health benefits for their employees, often (about half of the plans) at no cost to the employee. The range of services covered under group health plans has grown to include more outpatient and employee support services. These additions have been made at least in part to encourage employees to use outpatient services, which are less costly than similar services provided on an inpatient basis.

The trend to shift part of the costs of employee health benefits to employees has been strong since about 1980. One or more cost containment methods have been incorporated into almost all health plans. One of the most important steps employers have taken for cost containment is the decision to switch from commercial or BC/BS insurance to self-insurance, often with stop-loss coverage against catastrophic claims. The share of commercial carriers in the employee health benefits market has declined substantially, even though insur-

ance companies continue to administer the majority of self-insured plans. The generosity of employee health benefits and the preferred funding-administrative approach vary somewhat with company location, size, and industrial sector. Company size (i.e., number of employees), however, is a particularly important factor, and it is emphasized by the predominance of small businesses in the relatively volatile service and retail sectors of the economy.

"Wellness" programs and health risk appraisals are also becoming relatively common at the worksite. While there is as yet insufficient evidence that changes in specific risk factors actually reduce the risk of developing certain diseases or of death from specific causes, there is evidence that self-reported risk factors and behaviors are predictive of an individual's future health care costs. Employers who provide health care coverage to their employees are concerned with managing their health care costs, and at least some of the risk factors (e.g., high blood pressure, seat belt use) leading to higher health care costs are preventable.