

## **Chapter 3**

# **Monitoring Worker Health**

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## Chapter 3

# Monitoring Worker Health

In most large corporations, some portion of the workforce is exposed to workplace conditions or substances that represent a health risk to some or all employees. The Occupational Safety and Health Act (Public Law 91-596) requires that each employer . . . shall assume safe and healthful working conditions for working men and women. " It is well known, however, that some people are more susceptible to adverse effects from some exposures than others. For instance, serum alpha- 1-antitrypsin deficiency can enhance the risk of emphysema when people are exposed to certain occupational risk factors. One possible method to protect people with such genetic constitutions and, perhaps, allow higher exposure levels in the workplace, is to identify those at special risk.

### WORKPLACE RISK

The survey posed a series of questions to personnel and health officers concerning workplace risks and the monitoring of employees. Two workplace risks important to corporations are chemicals and ionizing radiation. Under certain conditions, exposures to chemicals and ionizing radiation may cause chromosomal damage. Also, certain individuals are more susceptible than others to exposures from these materials (1). As noted in the previous chapter, health officers reported that job applicants and employees with certain medical conditions were excluded from jobs involving exposure to chemicals and radiation.

#### *Chemicals and Ionizing Radiation*

*The survey* found that chemicals and ionizing radiation were fairly common among large corporations. More than half of the corporate health officers (52 percent) reported that at least some of their employees were exposed to chemicals or ionizing radiation in the workplace setting (table 3-1).

The likelihood of employee exposure to chemicals or ionizing radiation clearly varied by industry sector. Almost all health officers from companies classified as pharmaceutical (96 percent), petroleum (93 percent), and other chemicals (93 percent) reported that at least some of their employees were

**Table 3-1-Employee Exposure to Workplace Hazards**

**Q.7. Are any employees in your company exposed to chemicals or ionizing radiation in the workplace setting?**

(Base: Health officers)

	Unweighed base	Percent		No answer
		Yes	No	
<b>Total . . . . .</b>	<b>(494)</b>	<b>52</b>	<b>46</b>	<b>2</b>
<i>Type of business</i>				
Electrical utility . . . . .	( 39)	84	16	0
Pharmaceutical . . . . .	( 21)	96	4	0
Other chemical . . . . .	( 42)			5
Petroleum . . . . .	( 5)	93	7	0
Electronic . . . . .	( 19)			
Other				
manufacturing . . . . .	(154)	54	41	4
Nonmanufacturing . . . . .	(214)	49	50	1

SOURCE: Office of Technology Assessment, 1991.

exposed to chemicals or ionizing radiation in the workplace. Similarly, the majority of health officers (84 percent) from companies classified as electric utilities reported these forms of workplace exposure. Half of companies (51 percent) classified as electronic or semiconductor manufacturers reported employee exposure to chemicals or ionizing radiation. However, even among those companies classified as other manufacturing, a majority (54 percent) reported employees exposed to chemical and ionizing radiation. And, almost half (49 percent) of those companies categorized as nonmanufacturing reported some employee exposure to these types of workplace conditions.

Health officers in companies with workplace exposures involving chemicals and ionizing radiation were asked if exposed employees were routinely rotated to avoid prolonged exposure. Forty-one percent reported that employees exposed to chemicals or ionizing radiation were routinely rotated to avoid prolonged exposure. The majority of companies in which there were workplace exposures to chemicals and ionizing radiation (54 percent) reported that exposed employees were not routinely rotated (table 3-2). This was particularly true for companies in the electronics industry (96 percent), the chemical industry (69 percent), and electric utilities (69 percent), where these types of exposures might have been fairly widespread.)

Table 3-2—Rotation of Employees

Q.7a. Are those employees who are exposed to chemicals or ionizing radiation routinely rotated to avoid prolonged exposure?  
(Base: Health officers in companies that report employees are exposed to chemicals or ionizing radiation)

	Unweighed Base	Percent			
		Yes	No	Don't know <sup>a</sup>	No answer
Total .....	(325)	41	54	2	3
<i>Type of business</i>					
Electrical utility.....	( 36)	30	69	0	1
Pharmaceutical .....	( 20)	26	58	0	16
Other chemical .....	( 40)	31	69	1	0
Petroleum .....	( 4)	52	48	0	0
Electronic .....	( 12)	4	96	0	0
Other manufacturing .....	(104)	32	57	4	7
Nonmanufacturing.....	(109)	47	50	2	1
<i>Number of employees</i>					
Less than 5,000 .....	(149)	47	49	2	3
5,000 to 9,999 .....	( 53)	33	66	0	2
10,000 or more .....	(121)	21	67	8	4

<sup>a</sup>Volunteered response.

SOURCE: Office of Technology Assessment, 1991.

It should be noted, however, that several health officers commented that they defined exposure as including the potential for exposure. In other words, employees in certain positions might have run a risk of exposure to chemicals and ionizing radiation without actually being exposed. In these instances, rotation was unnecessary because the exposure was only potential exposure.

### *Individual Susceptibility to Risk*

Some workplace hazards impose an equal risk on all employees. Other workplace exposures, however, represent special risks to certain employees, depending on the individual characteristics of the employee.

The majority of health officers (65 percent) said that none of their employees was exposed to workplace conditions which imposed differential risks on workers depending on individual susceptibilities. On the other hand, nearly a third (31 percent) reported that employees in their companies were exposed to conditions with differential risks for health, depending on the employee's susceptibility (table 3-3). Among pharmaceutical firms alone, 71 percent of health officers reported occupational exposure of employees to conditions with differential individual susceptibility.

## MEDICAL SURVEILLANCE OF EMPLOYEES

Two possible motivations for medical surveillance of employees can be inferred from the survey.

First, half of all companies surveyed reported employees were exposed to chemicals and ionizing radiation, which were associated with negative health outcomes under certain circumstances. Second, nearly one-third of the companies interviewed reported workplace exposures of some employees to conditions in which health outcomes were related to individual susceptibility. Both of these factors could prompt an employer to monitor employee health because of possible adverse health effects related to exposure.

### *Appropriateness of Monitoring Worker Health*

The survey indicated the requirement for preemployment health examinations of job applicants was accepted by a majority of corporate personnel officers—regardless of whether there were known health risks in the workplace setting. A somewhat different picture emerged from the survey data regarding the appropriateness of corporate monitoring of employee health when there were no known health risks.

Corporate personnel officers were asked whether they believed it is generally appropriate or generally inappropriate for a company to require periodic medical testing of employees in workplace settings where *there are no known health risks*. The majority (61 percent) considered it inappropriate to require medical testing of employees in workplace settings where *there were no known risks* (table 3-4). However, the attitude toward employee health

**Table 3-3-Awareness of Known Workplace Conditions to Which Individual Susceptibility May Differ**

**Q.8. Are any employees in your company exposed to any known workplace condition where there is a greater risk of negative health outcome, depending upon individual susceptibilities?**

(Base: Health officers)

	Unweighed Base	Percent			
		Yes	No	Don't know <sup>a</sup>	No answer
Total .....	(494)	31	65	•	3
<b>Type of business</b>					
Electrical utility .....	( 39)	37	62	1	0
Pharmaceutical .....	( 21)	71	14	0	15
Other chemical .....	( 42)	49	49	2	0
Petroleum .....	( 5)	44	56	0	0
Electronic .....	( 19)		91	0	3
Other manufacturing .....	(154)	35	63	0	2
Nonmanufacturing .....	(214)	29	67	•	4

<sup>a</sup>Volunteered response.

• Indicates less than 1 percent.

SOURCE: Office of Technology Assessment, 1991.

monitoring changed radically when there were known health risks in the workplace setting. The survey found that, almost universally, corporate personnel officers (93 percent) thought that it was appropriate to require periodic medical testing of employees in workplace settings where *there were known health risk* (table 3-5).

### *Periodic Medical Testing*

A majority of personnel officers (58 percent) said that their corporate policies did not require periodic medical testing of employees in risk categories. However, 4 out of 10 personnel officers (41 percent) reported that periodic medical testing of persons at risk was required under corporate policy (table 3-6). (It should be noted that the Office of Technology Assessment did not define persons at risk, it was left up to the company to define this term.)

Among the companies surveyed, there was no consistent relationship between periodic medical testing of employees and company size. Among firms with less than 5,000 employees, 40 percent reported periodic medical testing. This rate fell to 35 percent in firms with 5,000 to 9,999 employees. However, it was highest (50 percent) in firms with 10,000 or more employees.

The rates of reported employee health monitoring were highest in the petroleum companies (97 percent). A policy of periodic medical testing of employees at risk was also reported by a majority of pharmaceutical companies (72 percent), other chemical companies (68 percent), electronic manufacturers (64 percent), and electric utilities (58 percent).

**Table 3-4-Appropriateness of Monitoring When There Is No Known Health Risk**

**Q.4. Do you think that it is generally appropriate or generally inappropriate for a company to require periodic medical testing of employees in workplace settings where there are no known health risks?**

(Base: Personnel officers)

Unweighed base	(569)
Appropriate .....	39%
Inappropriate .....	61
Not sure .....	•
No answer .....	•

• indicates less than 1 percent.

SOURCE: Office of Technology Assessment, 1991.

**Table 3-5-Appropriateness of Monitoring When There Is Known Health Risk**

**Q.5. Do you think that it is generally appropriate or generally inappropriate for a company to require periodic medical testing of employees in workplace settings where there are known health risks?**

(Base: Personnel officers)

Unweighed base	(569)
Appropriate .....	93/%
Inappropriate .....	7
Not sure .....	*
No answer .....	1

\*Indicates less than 1 percent.

SOURCE: Office of Technology Assessment, 1991.

By contrast, the rate of periodic employee monitoring fell to 47 percent in other manufacturing companies and 36 percent in all other nonmanufacturing companies.

The relationship between occupational exposure to workplace risks and the likelihood of periodic

**Table 3-6-Periodic Medical Testing of Persons in Risk Categories****Q.19. Is it your company's policy to conduct periodic medical testing of persons in any risk categories?**

(Base: Personnel officers)

	Unweighed base	Percent		
		Yes	No	No answer
Total .....	(569)	41	58	1
<b>Number of employees</b>				
Less than 5,000 .....	(308)	40	59	j
5,000 to 9,999 .....	(99)	35	64	
10,000 or more .....	(154)	50	48	3
<b>Type of business</b>				
Electrical utility. ....	( 43)	58	38	3
Pharmaceutical .....	( 20)	72	28	0
Other chemical .....	( 37)	68	26	6
Petroleum .....	( 10)	97		0
Electronic .....	( 21)	64	36	0
Other manufacturing ....	(176)			
Nonmanufacturing .....	(262)	36	63	.

"Indicates less than 1 percent.

SOURCE: Office of Technology Assessment, 1991.

employee health monitoring was put into perspective by the corporate health officers. As noted earlier in this chapter, approximately half of the health officers reported that employees in their companies were exposed to chemicals or ionizing radiation in the workplace setting.

A majority of health officers in companies in which employees were exposed to chemicals or ionizing radiation (53 percent) reported that medical surveillance was conducted of employees whose jobs might have exposed them to health risks (table 3-7). The use of medical surveillance was less frequent among affected companies with fewer than 5,000 employees (46 percent) than among those with 5,000 to 9,999 employees (75 percent) or 10,000 or more employees (66 percent).

The survey yielded information concerning not only the extent of health monitoring among employees at potential risk, but the limits of that monitoring as well. Over half of large companies (58 percent) did not perform any routine employee health monitoring, even among employee groups at risk to occupational health problems. Moreover, even in companies where employees were exposed to chemicals and ionizing radiation, nearly half (46 percent) did not perform *any form* of medical surveillance of workers at risk other than that required by the Occupational Safety and Health Administration (OSHA).

**Table 3-7-Medical Surveillance of Employees With Jobs That May Expose Them to Environmental Health Risks****Q.7b. Does your company conduct any form of medical surveillance of employees whose jobs may expose them to environmental health risks, other than testing required by OSHA?**

(Base: Health officers in companies with employees exposed to chemicals or ionizing radiation in the workplace)

	Unweighed base	Percent		
		Yes	No	No answer
Total .....	(325)	53	46	1
<b>Number of employees</b>				
Less than 5,000 .....	(149)	46	52	2
5,000 to 9,999 .....	( 53)	75	25	0
10,000 or more .....	(171)		33	

SOURCE: Office of Technology Assessment, 1991.

### *Types of Employee Health Evaluations*

The survey explored what, if any, types of exams companies require as part of ongoing worker health evaluation and as a condition of continued employment of all employees, only those in certain plants or jobs, or only employees with certain medical conditions or histories. It also obtained information about the companies that require no testing of any workers.

The survey found that hearing tests were the most commonly used type of ongoing health testing of the seven categories investigated in the study. Four out of ten (41 percent) health officers reported that hearing tests were required of at least some employees (table 3-8). Eleven percent reported that hearing tests were required of all applicants.

Blood chemistry tests, chest x-rays, and vision tests were also part of ongoing worker health evaluations in many of the large companies. Approximately one-third of responding companies reported that they tested at least some employees. Tests required included chest x-rays (36 percent), blood chemistry tests (35 percent), and vision tests (32 percent). Thirty percent of responding health officers reported that pulmonary function tests were required of at least some employees. However, only 3 percent of responding health officers reported that pulmonary function tests were required for all employees. Only 6 percent of companies required tests for hypersensitivity for any workers as part of routine health evaluations.

In the bulk of these cases, the requirement for the medical testing was neither company wide nor re-

Table 3-8-Types of Employee Health Evaluations

Q.9a. As part of on going work evaluation, does the company require, as a condition of continued employment, all employees, only those in certain plants or jobs, only employees with certain medical conditions or histories, or no employees to have:

(Base: Health officers)

	Unweighed base	All employees	Selected plants/ jobs	Selected conditions/ histories	Percent			
					Both <sup>a</sup>	None	Don't know <sup>b</sup>	No answer
Routine physical examination . . . . .	(494)	14	18	4	2	48	*	14
Test for hypersensitivity . .	(494)	.	2	3	1	69	*	25
Hearing tests . . . . .	(494)	11	26	2	2	44	.	15
Pulmonary function tests .	(494)	3	21	4	2	50	0	20
Vision tests . . . . .	(494)	11	17	2	2	49	0	19
Chest x-rays . . . . .	(494)	6	15	13	2	47	0	17
Blood chemistry tests . . .	(494)	10	16	8	1	48	0	17

<sup>a</sup>Both "plants/jobs" and "conditions/histories" Volunteered.

<sup>b</sup>Volunteered response.

\*Indicates less than 1 percent.

SOURCE: Office of Technology Assessment, 1991.

stricted to workers with certain medical conditions. Rather, these types of ongoing health evaluations were required for employees in certain plants or jobs.

Aside from specific tests, the survey investigated the use of routine physical examinations as part of ongoing worker evaluations. Little more than a third (38 percent) of the companies surveyed reported that routine physical exams were required of any workers. One in seven companies (14 percent) required routine physical examinations as part of ongoing worker evaluations of all employees.

### *Employee Medical Records*

Any medical monitoring and screening of employees and job applicants creates medical records on their past and current health conditions including specific test results. A major concern associated specifically with genetic monitoring and screening, as with all medical testing, is the use of test findings. The use of such information depends, in part, on who will have access to those records. The survey examined the standard practice of industry in maintaining employee health records and permitting access to those records.

All medical testing in the workplace, regardless of the nature of the tests being performed, raises questions of medical records and their maintenance. The survey found that companies conduct a wide variety of job applicant screening tests and ongoing medical evaluation tests of employees. Once such tests are conducted, the question of where the results are kept is raised. Hence, health officers were asked

which corporate office maintains employee health records.

The responsibility for employee health records is evenly divided between the medical or occupational health office and the personnel office. About half (47 percent) of the health officers responding to the survey reported that the medical or occupational health office was responsible for employee health records in their companies. In the other half (45 percent), the health officer reported that the personnel office was responsible for employee health records. In only a handful of cases (4 percent) was the responsibility for employee health records lodged in some other corporate office (table 3-9).

### *Access to Employee Medical Records*

The health officers, identified by the survey as frequently responsible for employee health records, were asked about the access to those records. For each of nine parties, the questionnaire asked: "Does your company permit access to employee medical records—at company discretion, with employee permission, or both?"

About 3 in 10 (28 percent) health officers reported that access to employee medical records by the personnel department required the employee's permission. On the other hand, 3 in 10 (29 percent) reported that the company permitted the personnel department access to those records at company discretion (table 3-10). A quarter (24 percent) reported that access was permitted both at company discretion and with employee permission.

Table 3-9-Company Office Responsible for Employee Health Records

Q.39. Which office in your company is responsible for employee health records?  
(Base: Health officers)

	Unweighed Base	Percent			No answer
		Medical/ occupational health	Personnel	Other	
Total .....	(494)	47	45	4	6
<i>Type of business</i>					
Electrical utility.....	( 39)	40	44	9	9
Pharmaceutical .....	( 21)	85	16	0	0
Other chemical .....	( 42)	54	38	0	9
Petroleum .....	( 5)	56	44	0	0
Electronic .....	( 19)	27	68	0	4
Other manufacturing .....	(154)	53	44	3	4
Nonmanufacturing.....	(214)	44	45	5	7

SOURCE: Office of Technology Assessment, 1991.

Table 3-10-Company Access to Employee Records

Q.40. Does your company permit access to employee medical records-at company discretion, with employee permission, or both to:  
(Base: Health officers)

	Unweighed base	Percent				No answer
		At company discretion	Employee permission	Both	Don't knows <sup>a</sup>	
Personnel department .....	(494)	29	28	24	•	19
Health insurance carriers .....	(494)	15	38	20	•	27
Life insurance carriers .....	(494)	13	39	19	•	29
Disability insurance carriers.....	(494)	15	35	24	•	27
Unions .....	(494)	3	26	12	•	58
Other companies .....	(494)	4	31	11	•	55
Employee .....	(494)	14	41	22	•	23
Employee's spouse .....	(494)	3	37	13	•	47
Other family .....	(494)	2	33	13	•	52

<sup>a</sup>Volunteered response.

•Indicates less than 1 percent.

SOURCE: Office of Technology Assessment, 1991.

Only a small proportion of companies permitted access to employee medical records to other interested parties without the permission of the employee. The reported incidence of permitting third-party access to employee records, at company discretion, was 15 percent for disability insurance carriers, 15 percent for health insurance carriers, 13 percent for life insurance carriers, 4 percent for other companies, and 3 percent for unions.

The employee's access to his or her own medical records posed another issue. The survey indicated that in 4 in 10 (41 percent) cases, the employee's request was sufficient for the employee to gain access to his or her own medical records. However, about a third of the health officers (36 percent) reported that access to those records by the employee

was permitted either at the company discretion or required both company and employee permission.

### Statistical Recordkeeping

Corporate personnel officers were asked whether or not their companies maintained statistical data on the reasons for job terminations. Six out of ten companies (62 percent) reported having statistical data on job terminations. There was no clear relationship between company size and the likelihood of maintaining statistical data on job terminations.

Less than 1 percent of the companies surveyed reported that biochemical or cytogenetic tests were listed in statistical data as rejection categories for employee job terminations (table 3-11). Among those that kept statistical data on employee termina-



**Table 3-n-Statistical Recordkeeping of Job Termination Reasons**

Q.20a. Are biochemical or cytogenetic tests used as rejection categories in these data?

(Base: Personnel officers)

Unweighed base	(354)
Yes .....	•
No .....	97%
No answer .....	3

"Indicates less than 1 percent.

SOURCE: office of Technology Assessment, 1991.

**Table 3-13-informing Employees of Periodic Medical Testing Results**

Q.19a. Is it company policy to inform employees of positive test results?

(Base: Personnel officers in companies that conduct periodic medical testing of persons in any risk categories)

Unweighed base	(277)
Yes .....	97%
No .....	1
No answer .....	2

SOURCE: Office of Technology Assessment, 1991.

**Table 3-12-Statistical Recordkeeping of Job Termination Reasons**

Q.20b. Are other medical criteria used as rejection categories in these data?

(Base: Personnel officers)

	Unweighed base	Percent			
		Yes	No	No answer	Don't know <sup>a</sup>
Total .....	(354)	20	75	3	1
<i>Number of employees</i>					
Less than 5,000 .....	(354)	19	77	3	1
5,000 to 9,999 .....	(354)	34	61	5	0
10,000 or more .....	(354)	18	77	4	1

<sup>a</sup>Volunteered response.

SOURCE: Office of Technology Assessment, 1991.

tions, relatively few reported the use of medical criteria as reasons for such actions. One-fifth (20 percent) of companies maintaining statistical data on job terminations reported that medical criteria appeared as termination categories (table 3-12). This was more common among companies with 5,000 to 9,999 employees (34, percent) than among either those with fewer than 5,000 employees (19 percent) or more than 10,000 employees (18 percent).

### *Release of Test Results to Employees and Others*

The personnel officers in companies that conducted any type of periodic medical testing of employees in any risk categories were asked whether it was company policy to inform employees of positive test results. In almost every case (97 percent), the corporate personnel officers reported that it was company policy to inform employees of positive test results. Only 1 percent of corporations that periodically tested their employees had no policy of informing employees of positive test results (table 3-13). Two percent of personnel officers did not answer this question.

Corporate personnel officers in companies that conducted periodic medical testing of their employees reported, almost universally, that it was company policy to refer employees to appropriate health care providers, if positive test results were obtained. Ninety-three percent of personnel officers in companies that conducted periodic testing of employees at risk said that it was policy to refer employees with positive test results to medical providers. Five percent of companies conducting such tests reported that it was not policy to refer employees to health care providers if positive test results were obtained (table 3-14).

The personnel officers in firms conducting health monitoring were also asked if company policy allowed the release of positive test results to anyone outside of the company, other than the employee. In a majority of cases (74 percent), corporate policy did not permit such release. However, nearly a quarter (24 percent) of personnel officers said company policy allowed the release of positive test results, at least under certain circumstances (table 3-15).

Those companies allowing the outside release of positive test results were asked under which circumstances this could happen. Most commonly, such

**Table 3-14—Referring Employees to Health Care Providers if Periodic Medical Testing Results Are Positive**

Q.19b. Is it company policy to refer employees to health care providers if positive test results are obtained?

(Base: Personnel officers in companies that conduct periodic medical testing of persons in any risk categories)

Unweighted base	(277)
Yes .....	93%
No .....	5
No answer .....	2

SOURCE: Office of Technology Assessment, 1991.

**Table 3-15—Releasing Periodic Medical Test Results Outside the Company**

Q.19c. Is it company policy to release positive test results to anyone outside the company, other than the employee?

(Base: Personnel officers in companies that conduct periodic medical testing of persons in any risk categories)

Unweighed base	(277)
Yes .....	24%
No .....	74
No answer .....	2

SOURCE: Office of Technology Assessment, 1991.

**Table 3-16—Circumstances of Releasing Periodic Medical Test Results Outside the Company**

Q.19d. Under what circumstances?

(Base: Personnel officers in companies that release results of periodic medical tests to anyone outside the company)

Unweighed base	(62)
Done with employee's consent/written authorization/release .....	33%
Through employee's personal/family physician . . .	23
If required by Federal/State law .....	20
At employee's request .....	9
Other circumstances .....	15

SOURCE: Office of Technology Assessment, 1991.

release of positive results occurred with the employee's consent or written authorization for release (33 percent) (table 3-16). Nearly a quarter (23 percent) said that the positive test results could have been released through the employee's personal or family physician. One in five (20 percent) said it was policy to release the results if required by Federal or State law. One in ten (9 percent) said results could be released at the employee's request, with no specification of formal written consent or release. Fifteen percent reported other circumstances under which such information could be released outside of the company.

**Table 3-17—Company Office Determining Which Tests Are Conducted as Part of Employee Health Surveillance**

Q.30b. Which office determines whether or not a specific test will be conducted as part of employee *health surveillance*?

(Base: Health officers)

Unweighted base	(494)
Corporate personnel .....	37%
Corporate health .....	28
Location personnel .....	14
Location health .....	14
Other .....	5
Don't know <sup>a</sup> .....	.
No answer .....	21
Net: Corporate .....	60
Net: Personnel .....	47
Net: Health .....	38

<sup>a</sup>Respondents could give more than one answer.

<sup>b</sup>Volunteered response.

\*Indicates less than 1 percent.

SOURCE: Office of Technology Assessment, 1991.

### *Who Decides on Surveillance Tests*

Thirty-seven percent of health officers reported that the corporate personnel office—not the corporate health office—determined which specific tests were conducted as part of employee health surveillance (table 3-17). By contrast, only 28 percent said that the corporate health office determined which tests were part of employee health surveillance. In only a minority of cases were specific medical surveillance tests determined at the location or establishment level. And, at this level, the health office (14 percent) and the personnel office (14 percent) were equally likely to determine which tests were conducted.

The survey found that in most companies decisions on specific tests for employee health surveillance were made at the corporate level (60 percent), rather than at the establishment level. The survey also suggested that decisions on specific surveillance tests were more often the responsibility of the personnel office than the health office. However, it should be recognized that smaller companies might have no health office.

### *Cost-Effectiveness of Surveillance Tests*

The survey found that health officers reported that the determination of which specific tests were performed as part of employee health surveillance rests, most often, with the personnel office. The survey also explored how corporate personnel officers viewed some of these tests—in terms of

**Table 3-18-Views on General Cost-Effectiveness of Periodic Medical Testing**

**Q.6. Do you think it is generally cost-effective or not cost-effective for a company to conduct periodic medical testing of employees for:**  
(Base: Personnel officers)

	Unweighed Base	Percent			
		cost- effective	Not cost- effective	Don't know <sup>a</sup>	No answer
High blood pressure .....	(528)	75	21	1	4
Respiratory function.....	(528)	54	39	1	6
Malignancies .....	(528)	42	49	1	8
Hearing function .....	(528)	58	36	1	5
Vision .....	(528)	50	42	2	6
Chromosomal abnormalities .....	(528)	11	76	3	9
Drug abuse .....	(528)	72	22	1	5

<sup>a</sup>Volunteered response.

SOURCE: Office of Technology Assessment, 1991.

cost-effectiveness. For each of seven types of tests, corporate personnel officers were asked whether they considered periodic medical testing of employees to be generally cost-effective.

Among the seven tests examined in the survey, personnel officers reported periodic medical testing for high blood pressure as the most cost-effective. Three out of four corporate personnel officers (75 percent) considered it cost-effective for a company to conduct periodic medical testing of employees for high blood pressure. Only 21 percent felt periodic blood pressure testing was not cost-effective (table 3-18).

Drug testing was also seen as a cost-effective form of periodic testing by the majority of personnel officers. Nearly three out of four (72 percent) reported that it was generally cost-effective for a company to conduct periodic medical testing of employees for drug abuse. Only 22 percent felt that periodic tests for drug abuse were not cost-effective. A majority of personnel officers considered hearing tests (58 percent), respiratory function (54 percent), and periodic vision testing (50 percent) of employees was cost-effective.

In contrast, a smaller proportion (11 percent) of the personnel officers surveyed said periodic medical testing of employees for chromosomal abnormalities was cost-effective for companies. There was almost no variation in this opinion by company size. Moreover, although there was some variation in the opinion about the cost-effectiveness of periodic monitoring of chromosomal abnormalities by industry type--it was highest among other chemical companies (14 percent) and lowest among electric utilities (5 percent), pharmaceutical companies (5 percent), and electronic manufacturers (0 percent)--these differences were relatively small. The current consensus among corporate personnel officials was that the cost-effectiveness to the company of many forms of employee health monitoring did not extend to genetic monitoring for chromosomal abnormalities.

## CHAPTER 3 REFERENCE

1. U.S. Congress, Office of Technology Assessment, *Genetic Monitoring and Screening in the Workplace*, OTA-BA-455 (Washington, DC: U.S. Government Printing Office, October 1990).