

Chapter 1

Summary and Overview

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Summary and Overview

In October 1990, the Office of Technology Assessment (OTA) released its assessment *Genetic Monitoring and Screening in the Workplace*, which considers the scientific, legal, ethical, and social aspects of the use of such tests in a workplace setting. It also delineates options for congressional action with regard to issues related to genetic monitoring and screening in the workplace. As part of the assessment, OTA commissioned a survey on genetic monitoring and screening in the workplace of 1,500 U.S. companies, the 50 largest utilities, and the 33 largest unions. The survey was conducted from March 24 to July 15, 1989.

The 1989 OTA survey gathered information about corporate employment practices and policies in general, and corporate practices and policies concerning genetic monitoring and screening in particular. This was done to provide important background information that would supplement and help to explain the information received about genetic monitoring and screening. This background paper presents the survey data that was not published in the full assessment.

OTA investigated a variety of employment practices including preemployment health examinations, employee health qualifications and monitoring of workers' health. In addition, the survey obtained information about other practices such as record-keeping and the release of medical test results to job applicants and workers.

The survey results were also interpreted in the context of a 1982 OTA survey on genetic monitoring and screening (part of the 1983 OTA assessment *The Role of Genetic Testing in the Prevention of Occupational Disease*). Trend data on the use of genetic monitoring and screening can be obtained by tabulating comparable questions in the 1989 and 1982 surveys. Of the 330 Fortune companies (62.4 percent) responding to the 1989 survey, 20 health officers reported that their companies had conducted genetic monitoring or screening, either currently or in the past 19 years. In comparison, the 1982 survey found 18 health officers in the Fortune 500 sample who reported current or past use. Thus, there has been little change between 1989 and 1982 in the

number of companies that had used genetic monitoring or screening in the workplace.

In summary, the 1989 survey found 12 Fortune 500 companies reporting current use of genetic monitoring or screening for research or any other reason. The ratio of current to past use of monitoring or screening was reversed in 1982, with 6 companies indicating current use of genetic monitoring or screening and 12 companies indicating past but not current use.

PREEMPLOYMENT SCREENING

The OTA survey briefly explored corporate policy concerning an illustrative range of job applicant attributes that might affect employment eligibility. Some job qualifications involve experience and skills, while others may relate to cost or risk (e.g., loss, casualty, or liability) that the applicant represents to the company.

Fifty-two percent of corporate personnel officers surveyed reported that their companies had a policy concerning hiring persons with criminal records. Of those companies having such policies, over a third (37 percent) said their policies prohibited the hiring of applicants with criminal records, while 8 percent said their policies did not. Fifty-four percent in companies with such policies said it depended on the situation. Cigarette smoking is an example of a personal habit that may represent potential costs to the employer. Despite the fact that cigarette smoking is recognized as a behavior carrying significant risks for cancer, heart disease, and other negative health outcomes, only 8 percent of personnel officers reported that their companies had policies concerning hiring cigarette smokers. Nearly a third (29 percent) of those companies with policies said that it was against corporate policy to hire smokers, while 46 percent said that it was not. Nineteen percent in companies with such policies said the circumstance would dictate the hiring of smokers.

OTA also examined company policies on preexisting medical conditions. Personnel officers in more than a third (35 percent) of the companies responding to the OTA survey reported having company policies concerning hiring persons with preexisting medical conditions. Sixty-nine percent of such

companies said it depended on the situation, while 6 percent said it was against corporate policy to hire those with preexisting medical conditions. Nineteen percent said it was not against corporate policy to hire them.

Finally, OTA found 5 percent of companies having a policy on hiring persons with increased genetic susceptibility to substances or conditions in the workplace. Of those companies with a policy, five percent said their policies prohibited the hiring of such people, while 13 percent said their policies did not.

These three areas did not exhaust the range of employee characteristics that might be factored into an employment decision. However, they provided a simple illustration that large companies had identified a range of factors that could affect a job applicant's employment eligibility. All of these factors represented preexisting conditions (criminal record, smoking, genetic or medical conditions) which may or may not influence the applicant's ability to do the job. Few companies reported a straight-forward policy of excluding persons with criminal records, who smoke cigarettes, or with preexisting genetic or medical conditions from eligibility for employment. In at least some of these areas, a substantial proportion of large companies had employment policies that may have excluded such people from some jobs or under certain conditions.

The majority of health officers responding to the survey (69 percent) reported that there were no specific medical criteria, other than those mandated by regulation, that excluded job applicants from specific jobs, sites, or positions in their companies. However, 27 percent of the health officers reported the existence of medical criteria that affected the employment eligibility of job applicants. These included back ailments or problems, pregnancy, sensitivity to materials used in production, and respiratory conditions.

Medical examinations are often required as a condition of employment for job applicants in large corporations.¹ When asked whether preemployment health examinations are required of all, most, some, few, or no job applicants, about half of the health

officers (49 percent) reported that preemployment health examinations were required of *all* job applicants. An additional 10 percent of respondents reported their companies required preemployment medical examinations of *most* job applicants.

Health and personnel officers were queried about what preemployment examinations they considered acceptable. Large majorities considered tests acceptable when they are used to identify applicants who were either physically unfit for employment (92 percent and 89 percent, respectively), currently using drugs (86 percent and 89 percent, respectively), at increased risk to workplace hazards (85 percent and 84 percent, respectively), or emotionally and psychologically unstable (77 percent and 73 percent, respectively).

The use of preemployment tests to identify job applicants who represented high insurance risks was found to be acceptable to a smaller proportion of health and personnel officers, 49 percent and 53 percent, respectively. Similarly, about half the health officers (51 percent) and personnel officers (52 percent) said their companies would approve of preemployment health exams to screen for job applicants with genetic susceptibility to workplace exposures.

Corporate personnel officers were asked about some of the types of preemployment exams that job applicants might be required to have. Fifty-one percent of personnel officers reported that routine physical exams were required of all applicants, as a condition of employment. Drug testing, as part of preemployment examinations for all applicants was reported by 38 percent of personnel officers. The majority (81 percent) of personnel officers responded that personality and/or psychological testing was never required of job applicants.

In companies where examination of job applicants was required, personnel officers were asked whether it was company policy to inform applicants of any positive test results. In most cases (81 percent), the corporate personnel officers reported that company policy was to inform applicants of positive test results from their preemployment examination. However, 16 percent of the corporations conducting preemployment health examina-

¹The OTA survey was conducted prior to enactment of the Americans with Disabilities Act (ADA) (Public Law 101-336). Beginning in July 1992, ADA bars preemployment medical examinations unless they are job-related and consistent with business necessity. Examining the ADA's effect on the practices uncovered by this survey is beyond the scope of this background paper.

tions as part of their hiring practices reported that it was not company policy to inform applicants of positive test results.

Corporate health officers were asked whether their office or the corporate personnel office decided which specific tests would be included in preemployment screening. Over half (53 percent) said the corporate personnel office made the decision. By contrast, only 27 percent said the corporate health office determines which tests were included in preemployment screening of job applicants.

MONITORING WORKER HEALTH

Medical screening in the workplace involves evaluating job applicants using certain medical criteria before they are hired, or the periodic examination of workers already employed. It can range from a cursory questionnaire to an oral history to a full preemployment physical, and is usually not intended to be diagnostic. Medical monitoring, on the other hand, involves the periodic evaluation of employees for either the effects of a toxic substance or its byproducts. A portion of the workforce in many large corporations is exposed to workplace conditions or substances that represent a health risk to some or all employees. Two examples of such workplace risks are chemicals and ionizing radiation. Some workplace hazards impose an equal risk on all employees. However, other workplace exposures represent special risks to certain employees, depending on their individual characteristics. One mechanism a company has to detect any damage the worker might be incurring as a result of such exposure is to conduct some form of medical monitoring.

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.

The majority (61 percent) of personnel officers considered it inappropriate to require periodic medical testing of employees in workplace settings where *there were no known risks*. However, the attitude toward employee health monitoring changed radically when there were known health risks in the

workplace setting. Almost universally, corporate personnel officers (93 percent) thought periodic medical testing of employees in workplace settings where *there were known health risks* was appropriate.

The survey explored what, if any, types of exams companies require as part of ongoing worker health evaluation. It was found that hearing tests were the most commonly used type of ongoing medical monitoring used by companies. Forty-one percent of health officers reported that hearing tests were required of at least some employees. Other medical monitoring required included chest x-rays (36 percent), blood chemistry tests (35 percent), and vision tests (32 percent). Corporate personnel officers in companies that conducted periodic medical testing of their employees reported, almost universally (93 percent), that it was company policy to refer employees to appropriate health care providers, if positive test results were obtained. Five percent said it was not company policy to refer to appropriate providers.

The OTA survey found that the corporate personnel office of companies surveyed determined the tests to be used in both job applicant screening and employee health surveillance more often than the corporate health office. 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. By contrast, only 28 percent said that the corporate health office determined which tests were part of employee health surveillance. Fourteen percent said the location health office determined which tests were used, and 14 percent said the location personnel office made the determination.

The cost-effectiveness of medical tests is an important issue for companies when deciding whether to implement a particular test for routine monitoring. The majority reported as cost-effective the use of periodic blood pressure testing (75 percent) and periodic drug testing (72 percent). Few companies (11 percent) reported periodic medical testing for chromosomal abnormalities was cost-effective for companies. 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.

Medical monitoring and screening of job applicants and employees creates medical records on their past and current health conditions. An issue of major concern is the use of such test findings and who in a company will have access to them. Health officers were asked which corporate office maintains employee health records. The responsibility for employee health records appeared to be evenly divided between the medical or occupational health office and the personnel office. Almost half (47 percent) of responding health officers said employee health records in their companies were located in the medical or occupational health office. Forty-five percent reported the personnel office was responsible for employee health records.

Health officers were asked who had access to medical records and under what situations access was allowed. 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 28 percent of health officers reported that access to employee medical records by the personnel department required the employee's permission. On the other hand, a similar amount (29 percent) reported that the company permitted the personnel department access to those records at company discretion. A quarter (24 percent) reported that access was permitted both at company discretion and with employee permission.

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.

GENETIC MONITORING AND SCREENING: PRACTICES AND POLICIES

Corporate personnel and health officers were asked the same series of questions about the acceptability within their companies of using genetic monitoring and screening for various purposes. The parallel series of questions allows a comparison of differences in acceptability of such tests in the workplace between those responsible for employee health and those responsible for personnel matters in large corporations.

A majority of the personnel officers surveyed (56 percent) said that their companies considered the use of genetic monitoring and screening for employees or job applicants as generally acceptable to inform employees of their increased susceptibility to workplace hazards. This rate was similar to that of health officers (50 percent).

The survey found some differences between health and personnel officers in their perceptions of the acceptability of genetic tests for some of the other types of occupational health monitoring in their companies. However, the more striking finding is that companies appear to be fairly evenly split over the acceptability of using genetic monitoring and screening in the workplace for the benefit of either the employee or the employer.

In order for companies to make decisions about the feasibility of genetic monitoring and screening, they must decide if the tests are cost-effective. The survey found that cost-effectiveness of genetic monitoring and screening influenced corporate decisions on implementing such programs. Only a small proportion of corporate personnel officers felt that any of the uses of such tests explored in the survey were currently cost-effective. One percent of personnel officers considered the use of direct-DNA (deoxyribonucleic acid) tests as part of preemployment screening currently cost-effective for their companies, while the use of biochemical genetic screening tests as part of preemployment screening was considered as cost-effective by 3 percent of the personnel officers surveyed. Seven percent considered the use of genetic screening to detect susceptibilities to workplace hazards as cost-effective, and 8

percent felt it was cost-effective to conduct genetic monitoring of all workers exposed to workplace hazards. However, almost half (45 percent) felt that such forms of genetic monitoring and screening were not currently cost-effective.

The future of genetic monitoring and screening in the workplace depends on corporate attitudes toward the use of the technology. The possibility that genetic monitoring and screening may seriously threaten employee rights is a key concern surrounding its use. To gauge employer sensitivity to this issue, health officers were asked whether they agreed or disagreed that genetic monitoring and screening pose such a threat. The survey found that health officers were aware of the concern. Over half (58 percent) of the health officers responding to the survey agreed with the idea that genetic screening represented a potential threat to the rights of employees. Interestingly, those who reported current genetic monitoring and screening were most likely (79 percent) to agree that such testing represented a potential threat to employees.

Since most health officers (62 percent) felt the decision to conduct genetic monitoring and screening should rest with the employer, one might expect relatively little enthusiasm about a government role in the issue of genetic monitoring and screening. However, a majority of health officers agreed that government agencies should provide guidelines for genetic monitoring (60 percent) and screening (58 percent) of job applicants and employees. In companies currently using such genetic tests, the majority (71 percent) agreed that government agencies should provide guidelines in these areas. The interest in government guidelines, however, should not be surprising given the recognition of the potential threat to employee rights raised by the technology, and the division of opinions over the proper uses of such tests.

Cost-effectiveness is not the only consideration for employers in deciding whether to use genetic monitoring and screening. In addition, respondents voiced concerns about the tests' reliability and legality, the liability associated with using them as well as fair and appropriate uses of the technology. The survey identified one factor that changes the perceived cost-effectiveness of genetic monitoring and screening in the workplace: the health insurance risk to the employer of the employee with a genetic

disease, condition, or trait. The personnel officers were asked about the degree to which health insurance risk, among otherwise able-bodied job applicants, affected employment decisions. The majority of personnel officers (55 percent) reported that the health insurance risk of an otherwise healthy job applicant would not affect the likelihood of the applicant being hired by their companies. However, the survey found that in more than two out of five companies (42 percent) the health insurance risk (i.e., the risk of incurring health care costs) of the job applicant reduced the likelihood of an otherwise healthy, able job applicant being hired "a lot" (3 percent) or "some" (39 percent).

The effect of concerns about health care risk on employee testing was not simply theoretical. About 1 in 10 personnel officers (11 percent) reported that the health insurance risk of job applicants was assessed on a routine basis. Another quarter of the companies (25 percent) reported that the health insurance risk of job applicants was assessed sometimes. Hence, while a majority of companies (63 percent) reported that they never assessed the health insurance risk of job applicants, more than one-third (36 percent) reported that they did assess health insurance risk, though not necessarily on a routine basis.

The growing concern among employers over the rising costs of employee health insurance, and the increased efforts to reduce those costs to the employer could increase the scope of health insurance screening in the workplace. The cost-effectiveness of employee monitoring and screening may increase to the extent that genetic monitoring and screening can identify employee and dependent risks to atypical subsequent health care demands.

It is important to keep in mind, however, that the OTA survey found that little genetic monitoring and screening is currently being conducted by employers. The survey provides no data that it is currently being used for health insurance screening purposes, nor does it suggest that is the case. Moreover, only a handful of companies not currently conducting genetic monitoring and screening anticipated doing so in the next few years. Based on the survey findings, the specter of health insurance screening appears to be the factor most likely to alter the current and anticipated pattern of use of genetic monitoring or screening in the workplace.