

Commentary

An Overview of Japanese Occupational Health

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Abstract: This paper provides an overview of Japanese occupational health and evaluates the current situation from three perspectives. Major occupational health hazards are assessed using four sources of data, showing patterns similar to those found in other advanced industrial societies. Institutional structures for occupational health policy are then examined, illustrating strengths and weaknesses of the Japanese legal and administrative systems. Trade

union activities are presented, indicating the constraints of enterprise unions, and the tendency for a greater orientation toward compensation than prevention. Significant occupational health problems persist among marginal workers in Japan, including women and various minority groups. The analysis demonstrates a record for occupational health in Japan considerably more mixed than the conventional view. (*Am J Public Health* 1988; 78:809-816.)

Introduction

In the past four decades, Japan has experienced dramatic changes in economic structure and strength. Emerging from the Second World War with its national productive capacity destroyed, Japan rapidly rebuilt to achieve economic growth rates that averaged 10 per cent from the late 1950s through the 1960s. Efforts focused first on the steel, shipbuilding, coal, electric power and fertilizer industries, followed by the chemical, automobile, machinery, and other heavy industries. Today, Japan excels in the high technology sectors and has become a world-class industrial power and capital-rich society. Indeed, the Japanese industrial and management systems are now highly regarded as positive models for economic growth and productivity.¹⁻³

Politically, Japan has been dominated since the 1950s by a conservative coalition of forces linking the bureaucracy, the ruling Liberal Democratic party, and business interests. The early postwar period, under the US Occupation, saw the introduction of liberal legislation in many areas, with the goal of assuring Japan's democratization. Japanese politicians then implemented a "conservative policy line" that used economic development as a political strategy to achieve party dominance and national stability.⁴ While the Liberal Democratic party responded pragmatically on issues of social development in the 1970s, it also has maintained a monopoly of national power for 30 years and kept opposition parties in the minority of the central government.

Few accounts of Japanese postwar industrial policy have examined the impact of this system on workers and worker health. Despite a substantial literature on Japan's environmental health disasters outside the factory,^{5,6} Japan's occupational health problems inside the factory have largely escaped publication in English. This article describes the Japanese occupational health system from three perspectives: 1) the institutional structures for occupational health

policy in Japan, including relevant laws, public agencies, and private organizations; 2) trade union activities for occupational health; and 3) the major patterns of occupational injuries and diseases in Japan, in comparison to patterns in other countries, and the circumstances of marginal workers in Japan. It also documents evolving rights of Japanese workers combined with persistent inequities that some workers confront in realizing their rights and in obtaining redress when harmed.

Institutional Arrangements

Legislation

The history of Japan's legislation for labor protection begins in the early twentieth century. The Mines Act of 1905 and the Factories Act of 1911 included some provisions for worker protection. Subsequent legislation in the 1920s and 1930s regulated such factors as minimum age of employment, conditions of factory dormitories, and so on. Major advances in workers' social security came with the Employees' Health Insurance Act of 1922, and subsequent health insurance legislation for specific groups of workers (Appendix A). Beginning in the late 1930s, however, as Japan went to war, government bureaucrats turned their attention away from social welfare and workers' rights and toward "strike prevention, wage controls, labor allocation, and other measures related to military-industrial mobilization."⁷

Japan's contemporary labor laws began to emerge immediately after the Second World War. Two key pieces of legislation, both quite progressive in the historical context, were the Trade Union Law of 1945, which guaranteed the rights to organize, bargain collectively, and strike, and the Labor Standards Law of 1947, which set the basic principles of worker protection for both union and nonunion workers (see Appendix A). The other major advance was the new Japanese Constitution of 1947, which stated that workers had a "right to organize, to bargain, and to act collectively" (Article 28) and that "[a]ll people shall have the right and obligation to work" (Article 27). Few Western countries provide such specific and strong guarantees of workers' rights.⁸

Japan's most important law in the area of occupational health, the Industrial Safety and Health Law (ISHL) of 1972, marked an emphasis on prevention.⁹ The ISHL is similar in many respects to the US Occupational Safety and Health Act; Appendix B compares some aspects of these two laws.

Perhaps the major difference between the two laws is the less explicit statement of rights and obligations in the ISHL. One Japanese labor lawyer has explained: "Japanese indus-

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trial relations are not concerned with the exact definition of the rights and obligations of the parties in a dispute."⁸ In Japan, rights and obligations have tended to be defined more through negotiation and consensus-seeking than through legislation and litigation. On the other hand, important protection of worker rights does occur through other Japanese laws, especially the Constitution, the Labor Standards Law, and civil law.

Standard Setting

Most hazard regulations are issued as ordinances by the Ministry of Labor (MOL). These ordinances are analogous to OSHA standards in the United States. Fifteen such ordinances have been issued since 1972 including crane operation, gondola work, organic solvents, dust, lead, ionizing radiation, and inspection authority. More common than ordinances are "technical recommendations", implemented through administrative guidance rather than legal compulsion.¹⁰

The Japanese Industrial Standards, promulgated by the Ministry of International Trade and Industry, specify structural and safety features for certain kinds of equipment. Finally, the Japan Association of Industrial Health, an academic organization, has set recommended Permissible Exposure Limits (*kyoyo nodo*) on over 100 toxicants and other hazards. Japanese laws and ordinances specify few exposure limits; most standards are work place environmental levels.

As in other countries, the work place environmental standards in Japan's ordinances and technical recommendations are determined by a professional group, composed of scientists and labor or management personnel. This group proposes a standard, which is promulgated after approval by the MOL's tripartite Labor Standards Council, including labor, industry, and academic representatives.

Although the review process for standards includes no formal mechanism for cost-benefit analysis, costly measures are likely to be blocked by industry interests, both at the committee level and at the MOL level. In considering a standard for vinyl chloride, for example, no formal cost-benefit calculations were made, but "companies did provide the Ministry of Labor with extensive estimates of the costs of reaching various exposure levels and the impact of such costs on company profits."¹¹ Based on the tripartite committee recommendation, the Ministry of Labor issued technical guidelines requiring that vinyl chloride levels be limited to a geometric mean of 2 ppm or less—as the result of an informal process of negotiation that included labor, and after the industry had achieved this level of control—in contrast to the US approach in which OSHA set the legally enforceable standard of 1 ppm, which was initially beyond the industry's technical capability and was immediately challenged in court. The use of government committees in Japan to reach compromise decisions among disparate interests represents a common approach.¹² Although dissatisfied citizens' or labor groups in Japan can challenge standards with legal action, this rarely occurs,¹¹ in contrast to the United States, where promulgated OSHA standards are routinely opposed in court by both labor and industry.

Research and Educational Organizations

Key research institutes in Japan include governmental organizations, such as the National Institute of Industrial Health.¹³ The Institute of Science of Labor, a major private research organization, was established in 1921, and has trained many important Japanese specialists in occupational health. Japan also recently established the University of Occupational and Environmental Health, a private specialty medical school to produce industrial (and other) physicians, as well as

occupational health nurses and medical and environmental technicians.¹⁴ The University receives funds mainly from the MOL but also from private industry through a foundation.

Educational activities in occupational health are provided by various organizations. The Japan Industrial Safety and Health Association, a semi-governmental body, oversees accident prevention associations in forestry, mining, construction, transportation, and longshoring. These prevention associations, which include labor representatives, provide information, support research, conduct surveys, and carry out educational programs.

Enforcement System

The main enforcement system in Japan is located in the Labor Standards Bureau, one of seven major bureaus in the MOL. Decisions of the Labor Standards Bureau are implemented locally by 47 prefectural Labor Standards Offices and 348 local Labor Standards Inspection Offices. The major categories of personnel are industrial safety officers and industrial health officers (several hundred of each) and labor standards inspectors (several thousand), all concentrated at the local level. These individuals are usually college-educated, and have received one or more years of specialized training. In some cases, they have backgrounds in law or industrial hygiene.

About 200,000 workplace inspections are carried out annually among Japan's 6 million work places. Inspections occur according to an annual plan designed at each Labor Standards Inspection Office (LSIO), concentrating on the most hazardous industries in each jurisdiction (as determined by accident reports). Inspections are also triggered by major accidents, by workers' compensation payments, and by worker complaints. If a violation is found, which happens in about 50 per cent of inspections, the employer is requested to correct it and to notify the LSIO when this is done. For a serious violation, a reinspection is conducted to confirm the corrective action. In a typical year, about 10 per cent of inspections are reinspections, another 10 per cent are triggered by worker complaints, and the remainder are selected by the criteria mentioned above.¹⁵

The inspections usually do not pose a significant challenge to management. Most inspectors do not attempt to surprise management. The focus of an inspection is often on wages, working hours, and so on, since the LSIOs enforce all MOL regulations, not only those pertaining to occupational health. Inspectors often only review the records, without on-site tours, environmental measurements, or interactions with workers. Although inspectors have formal police power and may stop dangerous processes or impose criminal penalties on violators, such sanctions are rarely invoked. Finally, in about 75 per cent of those inspections that yield a violation, subsequent compliance is monitored only by mail.

Workers' Compensation

The main compensation system in Japan is centrally administered by a division of the MOL Labor Standards Bureau, pursuant to the Workmen's Accident Compensation Insurance Law of 1947. Other compensation laws for government employees, local government employees, and mariners are administered by other agencies. Over one-half of Japanese workers are covered under the MOL system. Notably, Japan has a national compensation system, while the United States has a state-based system. In general, the Japanese government acts as the insurer, although large companies may self-insure or may use commercial carriers for extra protection.

A worker suffering from an occupational injury or disease may seek reimbursement through either the national health insurance scheme (as a non-occupational injury or illness) or through workers' compensation.¹⁶ The incentive for the latter is the 80 per cent wage replacement (national health insurance pays only 60 per cent), while the incentive for the former is the delay and resistance sometimes encountered in compensation cases.

The Enforcement Ordinance of the Labor Standards Law, which lists officially recognized compensable occupational diseases, contains not only the usual chemical toxicants, but also a section on diseases "caused by a specific form of work performance in which an extreme physiologic tension is involved."¹⁷ This attention to ergonomic disorders of vibration and repetitive motion is a strong feature of Japan's occupational health system.¹⁸⁻²⁰ The Japanese compensation system also provides coverage for injuries that occur in commuting to work, which are not covered under most US compensation laws.

The major shortcoming of the Japanese compensation system is shared by that of the United States—the difficulty of collecting for occupational diseases (as distinct from occupational accidents). Regulations under the Labor Standards Law list the officially recognized occupational diseases and specify the job and the disorder necessary for certification. For diseases or jobs not specified in these regulations, the onus is on the worker to prove occupational etiology, a difficult and often impossible task. Employers tend to contest applications vigorously.

Claims are decided locally by the Labor Standards Bureau director, after consulting an advisory committee of two management representatives, two labor representatives, and a health professional. A worker who loses may appeal to the Compensation Insurance Council in Tokyo, where in 1986 there was an 86 per cent worker loss rate,²¹ or may initiate a civil lawsuit, as occurs in a small but growing number of cases.

A major strength of the Japanese compensation system is the ability of workers to obtain partial replacement for wages outside the administrative compensation system through Japan's national health insurance system. From a social perspective, however, the use of the health insurance system does not result in internalization of the costs of occupational injury by companies.

Second, Japanese workers, unlike workers in the United States, can and on occasion do initiate civil suits against their employers. Moreover, a worker can use governmental certification of an occupational disease as evidence in a civil suit. For example, in 1973, the Japan Broadcasting Corporation was ordered in a court decision to pay one million yen to a typist with "neck, shoulder, and arm syndrome" of occupational etiology.²² And in 1986, Japan's first civil suit involving 10 asbestos workers with lung disease was decided in favor of the plaintiffs, nine years after they filed suit against their employer, Heiwa Asbestos Company, and its owner, Asahi Asbestos Company.^{23,24} Civil trials can provide significant additional compensation to workers, since the awards are not tied to wages, as occurs under the administrative compensation system. The trials also provide opportunities for political activism on occupational health and broader labor-management issues, a pattern found with other social problems in Japan.²⁵ But potential plaintiffs in Japan confront various institutional obstacles to litigation,²⁶ which make it difficult for injured or diseased workers to obtain compensation through the court system. The number of newly filed civil damage suits for occupational disease and injury com-

penetration increased from 203 in 1970 to a peak of 380 in 1975, with a decline in the 1980s.²⁷

A third alternative to the compensation system is for unions to negotiate contractual extensions of the compensation law. In 1974, for example, cashiers of Nada-Kobe Cooperative Stores secured recognition in their contract of the occupational etiology of low-back pain and "neck, shoulder, and arm syndrome," so that workers with those disorders could receive compensation from the company. Other unions have also negotiated wage replacement above and beyond the standard 80 per cent.²²

Union Activities

About 12.5 million Japanese workers, or 29 per cent of the employed work force, were unionized in 1984,²⁸ (compared to about 22 per cent of the employed nonagricultural work force in the US in 1982,²⁹ reflecting a downward trend in Japan from a peak of 56 per cent in 1949.³⁰ Recent declines in union membership rates in Japan result partly from the failure of unions to organize the growing numbers of part-time women workers and of disinterested younger workers.

The most striking feature of Japanese industrial relations is the dominance of the enterprise (or company) unions, which account for more than 90 per cent of all unions and organized workers in Japan.³¹ Craft and industrial unions do not figure importantly among Japanese unions or workers. Federations of enterprise unions, however, do play important roles for particular industries, and these federations are joined in turn into four major confederations: Sohyo, Domei, Churitsuroren, and Shinsanbetsu. Sohyo (General Council of Trade Unions of Japan) generally supports the Japanese Socialist party, and Domei (Japanese Confederation of Labor) is linked to the Democratic Socialist party. Churitsuroren (Federation of Independent Unions of Japan), and Shinsanbetsu (National Federation of Industrial Organizations) tend to remain neutral among political parties. Enterprise unions nonetheless maintain substantial autonomy from the federations in administrative matters and in bargaining.

Two competing theories have emerged to explain the dominance of enterprise unions in Japan and its associated features. On the one hand, James Abegglen in research in the mid-1950s stressed traditional cultural values and social organization in Japan: "The loyalty of the worker to the industrial organization, the paternal methods of motivating and rewarding the worker, the close involvement of the company in all manner of what seem to Western eyes to be personal and private affairs of the worker—all have parallels with Japan's preindustrial social organization."³² On the other hand, economists such as Koji Taira have argued that the paternalistic forms of industrial relations emerged in the interwar period as a rational strategy adopted by large corporations in a tight labor market for skilled workers and not as an organizational residual of feudal values.³³ Similarly, occupational health and safety issues in Japan and in other industrialized countries can be explained through an emphasis on social and organizational values³⁴ or on class and economic interests.³⁵

It is important to note that Japanese unions are primarily postwar phenomena, and all in all have made significant achievements, including general improvements in wages, hours and fringe benefits, institutionalization of employment security measures, enlarged participation of workers in management decision making, formation of countervailing

power against the conservative central government, and elevation of the status of workers in the social hierarchy.³⁶

But workers and unions remain limited by workers' relatively weak sense of rights about shop floor matters and by the company's common ability to coopt unions through an ideology of mutual cooperation. As Robert E. Cole wrote: "Mutual understanding based on mutual trust works in the interests of workers and democracy only if the power between management and labor is fairly evenly balanced. When the company holds a commanding edge, as is so often the case in Japan, mutual understanding is little more than a front for company domination."³⁷ In addition, many Japanese workers are in relatively powerless or marginal positions. "The large number of temporary workers, casual workers, subcontract companies, and within-company subcontract workers . . . give the company considerable leeway in dealing with the ups and downs of the economic cycle."³⁷

Although enterprise unions have been restricted in their activism, industry federations have contributed to important advances in Japanese occupational health policy. Union and worker activism among miners was essential for passage of the Special Protection for Silicosis Law of 1955 and the Pneumoconiosis Law of 1960,³⁸ enacted long before the United States passed the Federal Coal Mine Health and Safety Act of 1969, which set similar objectives for prevention and compensation. Regulations on the prevention of organic solvent poisoning in Japan in 1960 also resulted partly from union mobilization.³⁹ A campaign by the All Forestry Workers Union in the mid-1960s contributed to making vibration problems for chain saw users a social issue in Japan, called "White Finger Disease," resulting in official designation as an occupational disease for compensation.⁴⁰

Union activism since the early postwar period has tended to focus more on compensation than on prevention, especially prior to the 1972 law. "In general, both unions and management have been more interested in occupational safety than in occupational health, since the occupational origin of accidents is easier to establish and they are thus compensated relatively easily."³⁹

On compensation for occupational diseases, union-related organizations actively support the civil suits brought by disease victims. Indeed, several legal support organizations compete for pneumoconiosis patients, reflecting their connections to different political parties. This pattern is also found in other Japanese social movements that involve litigation.⁴¹

Several industry federations are known for their occupational health activism, including the Railway Workers' Union, the Postal Workers' Union, the All Forestry Workers' Union, Federation of Synthetic Chemistry Workers Unions, and the several Mine Workers' Unions. These federations have identified hazards faced by their membership, and have undertaken action ranging from protective contract language to educational programs, from lobbying for protective regulations to outright strikes. Japan's emphasis on ergonomic disorders reflects the active efforts of the unions that represent affected workers, including miners and railway workers (who use jackhammers and air drills), postal workers (who ride motorcycles), and forestry workers (who use chain saws), as well as secretaries and clerks.

The major labor confederations also play an important role. Sohyo publishes a monthly magazine (*Inochi*, or Life) on occupational health issues, and has maintained the Japan Worker Safety Center since 1967 to publish books, pamphlets, and *Inochi* and to organize educational activities, in-

cluding an annual conference on occupational health and the Rodo Daigaku (or Labor University) for union leaders. Domei similarly sponsors educational conferences and prints pamphlets on specific health and safety topics as well as articles in the organization's monthly magazine and daily newspaper. Both Sohyo and Domei have representatives from member unions on various MOL committees that deal with occupational health issues (the Labor Standards Council and the Workers' Compensation Council) and on committees formed under the Industrial Injury Prevention Organization Law of 1969.

Patterns of Occupational Injuries and Diseases

Data Sources

Japan has four major sources of data on occupational morbidity and mortality. Three of them are from the Ministry of Labor (MOL): reports of occupational accidents or illnesses that result in over four days' absence from work; records of compensation awards; and records of workers' medical examinations. The last source is the work of academic researchers, which often produces valuable data on occupational health and safety.

The MOL requires that any occupational accident or illness resulting in over four days' absence from work be reported to the local Labor Standards Inspection Office. OSHA 200 forms in the United States define a similar reporting function. However, as in other industrialized countries, the data gathered by this mechanism may be incomplete. Companies may not faithfully submit reports or may underreport the severity of an accident, hoping to avoid adverse publicity, increases in insurance charges, and plant inspections. Moreover, the forms used in reporting are geared to accidents rather than diseases, so disease data are likely incomplete.

The MOL compiles records of workers' compensation awards, and publishes them annually.⁴² These records, however, yield an incomplete picture, since many occupational diseases and accidents do not result in compensation awards. The problem may be more acute in Japan than in the US, since a superior "safety net" of universal health insurance coverage exists for all medical problems, and may remove some of the incentive to pursue compensation claims.

Japanese occupational safety and health standards mandate an annual health examination for all employed workers and periodic special medical exams for workers at risk of certain exposures, analogous to the requirements of the OSHA lead standard. Results of these exams are gathered by the MOL. The periodic special exams have been a limited data source due to the small proportion of workers actually examined in the past, but in recent years the proportion examined has improved.

Accidents

In 1983, approximately 875,500 Japanese workers were compensated for accidents, of which 2,701 were fatal.⁴² Table 1 appears to show that the Japanese industrial fatality rate is lower than those of other nations.⁴³ However, the data came from statistics with different denominators. After adjustment (assuming 1,000 person-years equals 2.25 million person-hours), the 1975 figures become 0.02 for Japan and the United Kingdom, 0.03 for the United States, 0.04 for Italy, and 0.07 for West Germany. Moreover, the completeness of accident reporting may vary dramatically with different social contexts and data gathering systems, so international statistical comparisons must be interpreted with great caution.^{44,45} For

TABLE 1—Fatality Rate of Industrial Injuries in Major Countries (Manufacturing)*

Year	Japan ^a	USA ^b	UK ^c	W. Germany ^d	Italy ^e
1955	0.06	0.09	0.05	0.25	0.25
1960	0.04	—	0.04	0.19	0.18
1965	0.04	0.04	0.04	0.19	0.15
1970	0.04	0.03	0.04	0.18	0.11
1975	0.02	0.03	0.04	0.16	0.08

*See text for additional explanation.

^aFatality rate of those establishments with 100 or more employees per one million hours actually worked.

^bRate of notified fatal cases covered by a sample survey per one million hours actually worked.

^cRate of notified fatal cases per 1,000 employees (average) excluding Northern Ireland.

^dRate of cases in which industrial accident compensation was paid per 1,000 man-years (assuming 300 work days per year), including West Berlin but excluding the Saar up until 1959.

^eRate of cases for industrial accident compensation per 1,000 man-years assuming 300 work days per year.

SOURCE: Japan Institute of Labor: Industry Safety and Health. No. 9 in Japanese Industrial Relations Series. Tokyo: Japan Institute of Labor, 1980.

example, Japan's data came only from companies of 100 or more workers; since large companies have relatively lower accident rates, the omission introduces a downward bias and precludes direct comparison. However, this recalculation suggests that Japan's fatality rate is somewhere above 0.02 fatalities per million hours worked, placing it squarely in the same range as the rest of the industrialized world.

Several other occupational injury trends are apparent. As in other industrial nations, the most hazardous industry is mining, with construction, forestry, and fishing showing elevated rates as well. The injury rate has a bimodal age distribution (Table 2). A peak among workers under age 20 years is presumably related to inexperience or to more dangerous jobs, and a peak among workers over age 50 years may be related to a slowing of reaction times, declining physical capacities, and the effect of long-standing exposures. Again, this pattern is similar to that of other industrialized nations. Japan also has dramatic differences in accident rates between large and small enterprises in the manufacturing sector (Table 3). This disparity reflects Japan's dual economic structure and the practice of subcontracting more hazardous jobs to small companies. Large, prosperous companies offer relatively good working conditions and high wages, while more marginal small- and medium-sized firms (often subcontractors to large companies) feature lower wages and worse working conditions.

TABLE 2—Japanese Occupational Injury Rate by Age

Age (years)	Injury Rate*	
	1978	1982
<20	9.8	9.2
20-39	6.6	5.5
30-39	8.7	6.8
40-49	11.8	9.5
>50	12.1	10.4

*Injuries/1000 workers/year. Includes injuries resulting in death or disability of at least four days.

SOURCE: Rodo Saigai Tokei Nenpo, 1983.

TABLE 3—Japanese Occupational Injury Rate by Size of Enterprise Manufacturing Sector, 1979

Size of Enterprise	Injury Rate*
Total	10.99
5-29 employees	14.03
30-99 employees	14.78
100-299 employees	7.99
300-999 employees	3.77
>1000 employees	0.78

*Injuries/1000 workers/year. Includes injuries resulting in death or disability of at least four work days.

SOURCES: Rodo Saigai Tokei Nenpo, 1979, p 9
Japan Statistical Yearbook, 1980, p 62.

Diseases

Occupational pulmonary diseases are detected through periodic medical examinations that the Pneumoconiosis Law mandates. Of the 260,565 examinations performed in 1983, 44,440 workers (17 per cent) were identified as having pneumoconiosis.⁴⁶ Information on the nature of these cases is inconsistent. In one study, coal mining accounted for 34 per cent of pneumoconiosis disability, metal mining for 27 per cent, ceramics for 13 per cent, and tunnel construction for 11 per cent.⁴⁷ In another study of pneumoconiosis among patients at a major Osaka hospital, located in an area with many small asbestos factories, silicosis accounted for 71.2 per cent of cases, and asbestosis for 14.0 per cent.⁴⁸ Other evidence suggests the presence of a significant asbestos problem. A review of the annual Pathological Autopsy, a nationwide registry of autopsy results, documents an increase in mesothelioma cases between 1974 and 1980.⁴⁹

Musculoskeletal diseases are well recognized in Japan, as illustrated in a recent review of compensation awards.⁵⁰ During the 1970s, there was a steady increase in back pain awards; among those awarded were drivers, assembly line workers, nurses, and office workers. Awards for "cervico-brachial disorder" during that period went to typists, key-punchers, and cash register operators. In 1983, working conditions of over 7,000 workers (ranging from forestry to postal workers), out of 74,921 persons tested, exceeded the medical guidelines related to vibration.⁴⁶

Conditions of over 1,000 workers were classified as exceeding the medical guidelines related to lead exposure in 1983, out of 131,180 workers tested.⁴⁶ As in the United States, few data are available on the extent of chronic diseases, such as occupational cancer, hearing loss, dermatitis, and psychosocial disturbances.

Marginal Workers

A major problem in Japan occupational health is the lack of attention paid to the occupational health problems of women and minorities, including seasonal workers, Burakumin, and Korean workers. This disregard reflects long-standing social stratifications within Japanese society; civil rights movements for Japan's minorities have only recently begun to win major recognition and reforms.⁵¹

Women constitute 40 per cent of Japan's work force. They are concentrated in clerical and service professions and, to a lesser extent, in manufacturing and agriculture. Recent trends in the employment pattern for women show shifts away from primary industries toward secondary and tertiary industries and toward professional positions. In addition, the age distribution

of employed women is shifting upward as more married women enter or return to the labor market.

The Labor Standards Law, as revised in 1985, contains provisions that ban wage discrimination and restrict overtime and some hazardous work for women. The provisions also restrict night shift work for women, depending on whether they work in manufacturing, white collar, or managerial/professional positions. In addition, six weeks of prenatal and eight weeks of postnatal leave are guaranteed, and nursing time is set aside from the workday for mothers of infants.

Despite these laws, and despite a series of court decisions since 1965 that declare various forms of sex discrimination illegal in Japan,^{25,52} problems for working women remain. They are often classified as "part-time" but work full time at lower wages than men. Significant problems also exist for reproductive hazards, hazards of such professions as nursing, and the equity issues of differential employment patterns.

This situation has changed somewhat since 1983, when the Labor Ministry issued its first proposal for an Equal Employment Opportunity Law. The Law was required by 1985 for Japan to comply with the United National Convention on the Elimination of Discrimination Against Women, to which Japan is a signatory. An active public debate followed the Ministry's proposal, with employers defending traditional discriminatory practices, feminists divided over the question of retaining protective measures versus seeking full equality of treatment, and labor union leaders anxious to gain better working conditions.⁵³⁻⁵⁵ The Law was enacted in May 1985 and granted women no new rights not already achieved through litigation. According to one legal scholar, the consequences of the Law over the next two decades "will depend less on the rights and duties created or eliminated by the statute than on the attitude of the officials of the Ministry of Labor."²⁵

The occupational health problems of seasonal workers also do not receive adequate attention in Japan. A chronic labor shortage and the seasonal nature of much of Japan's agriculture have given rise to a large pool of agricultural workers who migrate from rural to urban areas annually seeking employment. These seasonal workers are hired on a temporary basis, usually in construction or manufacturing. They tend to be poorly trained, assigned to unusually dangerous or undesirable jobs, and overlooked by the usual legislative, union, and social safeguards. The number of seasonal workers peaked in the early 1970s, at over 500,000 persons, and during the next decade declined by more than one-half, reflecting Japan's economic slowdown and shifting industrial structure after the oil crisis of 1973-74.⁵⁶ Data on the occupational injuries of seasonal workers are scarce, but at least one study has demonstrated higher than average injury and mortality rates, in part due to the more dangerous jobs and marginal social status of these workers.⁵⁶

The same is true for other marginal members of the work force. The Burakumin, Japan's traditional untouchable caste, were for centuries relegated to occupations considered "beneath" others: butchering, leather working, street cleaning, and handling the dead.^{57,58} Although discrimination has declined somewhat in the last few decades (especially since the passage of the Law on Special Measures for Dowa Projects in 1969), it remains difficult for the nation's Burakumin, who number over two million, to find employment with large companies. In the small industries that remain available to them, occupational hazards are prevalent. Similarly, the over 700,000 Koreans living in Japan suffer severe employment discrimination and encounter

some obstacles in legal recourse, since most persons of Korean descent, even though born in Japan, do not have Japanese citizenship.⁵¹

One of us (HF) inspected a number of sweatshops in a Korean neighborhood in Osaka engaged in subcontract sandal and clothing manufacture. Problems with ventilation, lighting, noise, unguarded equipment, fumes, and poor housekeeping rivaled those of the Third World or immigrant shops in large US cities. Like the problems of seasonal workers, these problems do not appear in official Japanese statistics but they must be recognized in any survey of Japan's major occupational hazards.

Conclusion

Japanese workers now face a range of occupational hazards much like those of their counterparts in Europe and North America. Because of deficiencies in both compensation data and government survey data, it is difficult to quantify accurately the morbidity and mortality resulting from these exposures, and even more difficult to make international comparisons. However, evidence suggests that Japan has accident rates similar to those of other industrialized nations, and that the risk may be especially high for workers in small Japanese companies. Additionally, there is evidence of a significant occupational disease problem, including asbestosis, silicosis, musculoskeletal disorders, and occupational cancer. There is no evidence that Japan's occupational health experience has been more salubrious than that of other industrialized nations.

The Japanese occupational health system can be cited for its thorough legal framework, its broad-based administrative arrangements, its detailed data collection, and its large complement of trained professionals. In addition, the safe and healthy work place is increasingly perceived by workers as a right to which they are entitled. However, political and economic interests continue to compete with scientific and public health perspectives in standard setting, and enforcement may be less than rigorous. Although labor federations and some unions have brought about significant changes, most unions remain limited in power and many workers are non-unionized and without influence. Marginal workers, such as Burakumin and Koreans, may suffer serious occupational health problems. Women employees continue to confront discrimination.

With Japan's aging work force and shift in industrial structure toward high technologies, new problems in occupational and health and safety are emerging, including issues of stress and mental health.

Tensions between productivity and worker welfare persist. In these senses, as in many others, Japan's experiences with occupational health make it very much a part of the developed capitalist world.

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APPENDIX A
Major Japanese Legislation Relevant to Occupational Safety and Health

Legislation	Year	Brief Description
Employees' Health Insurance Law	1922	Provides medical expense coverage and partial lost-time wage replacement to most employees in factories and businesses, and to the employees' dependents. Certain groups of employees are covered by specific legislation: Day Laborers' Health Insurance Law (1935), Seamens' Insurance Law (1939), and so on. Employees not covered, like those on farms or in very small work places, and other citizens, like the aged, are covered by the National Health Insurance Law (1938) and the Inhabitants' Health Insurance Law (1961).
Trade Union Law	1945	Partially modeled after the American Wagner Act, elaborates the right to organize, bargain collectively, strike, etc.
Labor Standards Law	1947	Originally based on ILO (International Labour Organization) standards, it regulates wages, hours, and other work place conditions. Provides the legal framework for recognition of a disease as occupational. However, other specific health and safety provisions were supplanted by the 1972 Industrial Safety and Health Law.
Workmen's Accident Compensation Insurance Law	1947	Defines the compensation insurance system for occupational accidents and diseases.
Pneumoconiosis Law	1960	Defines surveillance, classification, and health supervision for pneumoconiosis.
Industrial Injury Prevention Organization Law	1964	Promotes voluntary activities by employers' organizations aimed at prevention of work place accidents.
Industrial Homework Law	1970	A "labor standards law" directed at the large Japanese cottage industry, particularly in textiles and electronics.
Industrial Safety and Health Law	1972	Mandates administrative structures for occupational safety and health management at the plant level, regulates certain work practices, processes, and substances, and requires medical and environmental monitoring.
Working Environment Measurement Law	1975	Defines the training and certification of working environment measurements experts, and organizational arrangements for performing environmental monitoring.

APPENDIX B
Comparison of Japanese Industrial Safety and Health Law and the US Occupational Safety and Health Act

General Rights and Responsibilities	Industrial Safety and Health Law (Japan)	Occupational Safety and Health Act (United States)
Statement of employees responsibility	Must "endeavor to cooperate with employers and other persons concerned in measures related to the prevention of industrial injuries" (Article 4)	No explicit statement
Statement of employer responsibility	Must cooperate with government measures, comply and maintain a safe and healthy work environment (Articles 3, 64)	Must comply with standards and furnish a work place "free from recognized hazards" ("General Duty" Clause, Section 5a)
Statement of worker rights	Labor Standards Law, Constitution	Act aims "to assure so far as possible every working man and woman in the nation safe and healthful working conditions" (Section 2b)
Exemptions from Coverage	Family businesses	Government employees; small and "safe" companies administratively exempted from some provision
Specific Provisions		
Right to refuse dangerous work	None, but some civil law cases protected workers who refused dangerous work.	Established by regulation, not OSH Act itself.
Access to medical and monitoring data	Health record available upon termination from certain dangerous jobs (Article 67) No access to monitoring data.	Medical data made available by regulation, not by OSH Act itself. Exposure records made available (Section 8b3).
Labeling of hazardous substances	None.	Established in Section 6b7 and further in Hazard Communication Standard.
Required advance toxicological testing	Required (Article 57-2).	Required under TOSCA, not OSH Act.
Provisions for work place inspection	Well developed and detailed. Inspectors have police power.	Well developed. No formal police power for inspectors.
Confidentiality of worker medical records	Well protected.	Not specifically guaranteed.
Protection from retaliatory dismissal	None.	Guaranteed.
Requirements for plant-level activity	Detailed requirements, including technical staff and committee structure (Articles 59-63).	No detailed provision.

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