Analysis of Japanese Occupational Health Services for Small- and Medium-scale Enterprises in Comparison with the Finnish System

Tetsuya Mizoue1, Matti S Huuskonen2, Takashi Muto3, Kari Koskinen2, Kaj Husman2 and Monica Bergström2

1Department of Clinical Epidemiology, Institute of Industrial Ecological Sciences, University of Occupational and Environmental Health, Japan,
2Finnish Institute of Occupational Health, 3School of Medicine, Juntendo University

Abstract: Analysis of Japanese Occupational Health Services for Small- and Medium-scale Enterprises in Comparison with the Finnish System: Tetsuya Mizoue, et al. Department of Clinical Epidemiology, Institute of Industrial Ecological Sciences, University of Occupational and Environmental Health—The importance of establishing effective occupational health services (OHSs) for small- and medium-scale enterprises (SMEs) has long been stressed. This study aims to characterize the Japanese OHSs for SMEs through comparison with the Finnish services in terms of relevant legislation, frontline providers, supporting organizations, service contents, personnel and subsidiary or special programs. In Finland the Occupational Health Services Act requires all employers to organize OHSs irrespective of the size of the enterprise, and municipal health centers and private medical centers are the two most common service models for SMEs. In Japan the law requires employers with 50 or more employees to appoint one or more occupational health physicians for advisory services, whereas small-scale enterprises (SSEs) with fewer than 50 employees have available the services of the Regional Occupational Health Center. Expert supportive services are available in Finland from the Institute of Occupational Health, and in Japan they are available from the Occupational Health Promotion Center and several other organizations. Subsidiary programs have been developed for occupational health activities in SMEs in Japan. A nationwide action program on SSEs has begun to provide comprehensive services in Finland. In summary, Finland has attained higher coverage of OHSs for SMEs than Japan, not only through legislation but also by using flexible OHS models. Moreover, in Finland the content of the services is determined according to a risk assessment of each workplace and emphasis is placed on prevention, whereas in Japan health management based on a general health examination is the major type of OHS.

Keywords: small- and medium-scale enterprise, occupational health services, Japan, Finland

Small- and medium-scale enterprises (SMEs) contribute considerably to employment as well as to the gross national product. Of a 65 million total workforce including 53 million wage-earners in Japan, the proportions of the primary, secondary, and tertiary sectors are 5%, 33% and 61%, respectively1). Of a 2,170,000 total workforce, including 1,840,000 wage-earners, in Finland, the corresponding figures are 7%, 28% and 65%, respectively2). Among a total of 6,720,000 enterprises in Japan, the proportion of enterprises with fewer than 50 employees is 97%, which employ 60% of all employed workers. In Finland, the corresponding proportion among a total of 200,000 enterprises is 99% with 43% of all workers employed by them3). Many enterprises in Japan operate in industries such as wholesale, retail and restaurant (43%), service (26%), manufacturing (12%) and construction (10%)4), whereas major industries in Finland are trade (36%), manufacturing (19%) and construction (11%)5). These figures can fluctuate through several mechanisms, including downsizing of the enterprise or differential survival following the industry trend.

The importance of establishing an occupational health and safety system for SMEs, especially for small-scale
enterprises (SSEs), has been reported. Statistics from Japan show that the accident rate is higher for SMEs than for large businesses, and the highest mean accident rate in Finland occurs in enterprises with 31 to 50 employees. Occupational health hazards are prevalent among SSEs.

Workers in SMEs may be exposed to a high risk of developing occupational diseases due to inadequate knowledge and underdeveloped skills in controlling the hazards of the workplace. Therefore, for SMEs with limited internal occupational health resources, external provisions for occupational health services (OHSs) are indispensable to control hazards in the workplace.

Recently, both countries have initiated new nationwide programs focusing on occupational health in SSEs: Japan has developed a new OHS network for SSEs, and Finland has integrated various services for SSEs. Even though the two nations differ much in many respects, it is well for Japan’s further OHS development to examine the Japanese occupational health system in contrast with the system in Finland, which has a over 100 year history of OHSs and has ratified ILO convention No. 161 on OHSs. Through such comparisons, one can understand the features of OHSs in both countries better than through a description of each system. Some previous reports have examined OHSs by using internationally comparative approaches, but a multi-dimensional comparison is lacking, especially between Eastern and Western countries. This study therefore aims to characterize Japanese OHSs for SMEs through comparison with Finnish ones in terms of relevant legislation, frontline providers, supporting organizations, service content, personnel and subsidiary or special programs.

Aspects compared

Ever since both countries established community medical care systems for their entire populations, the importance of curative service in the occupational setting has been decreasing, except in the case of occupational diseases. We therefore focus mainly on preventive OHSs in this paper. By reviewing relevant legislation and published articles related to OHSs for SMEs in Japan and Finland, we compare the following aspects: legal requirements for the use of advisory OHSs, frontline OHS providers and their supporting organizations, content of OHSs and the corresponding personnel, and subsidiary or special programs for SMEs. We define frontline providers here as those who give OHSs directly to client enterprises or workers.

Based on the above comparisons, we discuss the characteristics of OHSs for SMEs in both countries in terms of coverage, preventive and occupational elements, and a multi-disciplinary approach. The importance of these factors in OHSs has been stressed in the ILO Convention No. 161 and in the “Declaration of Occupational Health for All” by WHO.

Law in relation to advisory OHSs

In Japan, although the Occupational Health and Safety Law is applied to all enterprises irrespective of size, it requires the use of advisory OHSs only for enterprises having 50 employees or more, which should appoint one or more occupational health physicians (OPs). Enterprises with fewer than 50 employees are only encouraged to have OPs for workers. The self-employed are not covered by the law.

In Finland the Occupational Health Services Act requires all employers, irrespective of the industrial sector or size of the enterprise, to organize OHSs for their employees, starting by identifying occupational hazards in the workplace. Although the law requires competent personnel to be included in OHSs, it does not specify the type of occupational health specialists required. Self-employed workers are also entitled to join or buy OHSs.

Frontline OHS providers

In Japan, more than 30,000 OPs (4.7 per 10,000 workers), 1,500 nurses qualified as public health nurses and several thousand other nurses are working in the occupational health setting, whereas in Finland 1,600 OPs (6.7 per 10,000 workers), 1,900 nurses, 400 physiotherapists and 130 psychologists currently provide these services.

In Japan, advisory services for enterprises with 50–999 employees are provided by an OP on a part-time basis, most of whom are also employed at a private clinic or hospital. Regional Occupational Health Centers (ROHCs), newly established public organizations, have begun to provide advisory service on request for SSEs with fewer than 50 employees. For OHSs other than advisory services, a workers’ health examination is provided through several channels: occupational health organizations, health examination centers, hospitals and clinics are the main private contributors, followed by public municipal health centers, which do not primarily aim at occupational health. Occupational health organizations and work environment measurement organizations, both of which employ qualified personnel, carry out work environment measurements on request. Other private OHS providers for SMEs have been documented, including parent companies, medical associations, trade associations and health insurance societies.

In Finland, provision of basic OHSs for SMEs is, in most cases, based on a contract between the employer and one OHS organization, which, if necessary, provides referral to specialized services such as work environment measurement or biological monitoring. Among prevailing OHS models, two types are common to SMEs: the municipal health center model and the private medical center model. The municipal health centers are legally required to provide OHSs on request, and these centers
mainly cover workers in rural areas, including the self-employed and farmers, while private medical centers predominate in urban areas\(^{17}\).

**Supporting organizations**

In Japan, frontline OHSs are supported by several organizations having specific tasks. The ROHCs and OPs are supported in information, consultation and training by the Occupational Health Promotion Center (OHPC), which is to be established for every prefecture. The Japan Medical Association (JMA) has developed a qualification program for OPs in cooperation with governmental administrations. This system provides systematic training for OPs involved in SMEs\(^{13}\). The Japanese Federation of Occupational Health Organizations, with more than 100 affiliated occupational health organizations, provides various training courses in quality control of health examinations for their member and non-member organizations. The Japan Industrial Safety and Health Association provides training courses for the personnel of the health promotion program. Experts from several institutes of occupational health and local universities collaborate on such supporting activities as mentioned above.

In Finland, provision of expert supportive services to frontline OHSs is one of the primary roles of the Finnish Institute of Occupational Health (FIOH), which has six regional branches covering the geographic regions. The frontline OHSs are supported by the FIOH in personnel training, consultation and information. In addition, they receive technical support from FIOH for detailed analyses, such as monitoring of the work environment. Such comprehensive support is sustained by experts on hygiene, psychology, chemistry, economy and safety\(^{3}\).

**OHS contents and their personnel**

The contents of typical OHSs for SMEs, together with the corresponding personnel, are shown in the table, with categories for work environment and for workers’ health.

In Japan, OPs are required to visit the worksite at least once per month to assess risk, and to attend occupational health and safety committee meetings to discuss occupational health issues. Occupational health nurses (ONs) are not entitled to engage in these activities. In Finland, the occupational health team, which generally consists of an OP and an ON, provides basic OHSs for

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* qualification system (+), † training course specialized in occupational health (+), ‡ complementary training course in occupational health (+), italics for the names of personnel who are mainly from supporting organizations.
SMEs. This includes an initial risk assessment through workplace survey and advice on actions in primary, secondary and tertiary prevention. The OP is responsible for assessing risk, and planning and operating OHSs, whereas the ON is active in practice. Performance analysis based on the frequency of worksite visits revealed that the ONs made more worksite visits than the OPs did\textsuperscript{[18]}. Physiotherapists participate in the assessment of ergonomic aspects of work.

In Japan, a qualified expert on work environment measurement is hired to plan and carry out work environment measurements, and a technician analyses samples from the workplace or worker. In Finland, such services are referred, if needed, from the frontline provider to the FIOH. Psychological aspects of work, such as work organization, are rarely assessed in SSEs in either country.

General health examination is quite popular even in SSEs in Japan\textsuperscript{[15]} because the law requires all employers to provide the service for their employees annually irrespective of exposure status. Such examinations are carried out on a voluntary basis in Finland. According to the law, health examinations specific to potential hazardous exposure are provided by the frontline OHSs in both countries, but provision of the examination differs: in Finland the OHSs assess the need for an examination, but in Japan OHSs carry out the examination at the request of the employer. In addition, the involvement of ONs in health examination differs: ONs carry out approximately twice as many health examinations as OPs in Finland\textsuperscript{[10]}, but ONs in Japan are only allowed to give health advice to workers under the guidance of OPs after a health examination.

With an increasing proportion of aged workers in both countries, emphasis has been placed on the maintenance of work ability through health promotion\textsuperscript{[3, 13]}. In Japan, the Total Health Promotion Plan is offered by a multi-disciplinary team with a sports trainer, dietitian and psychological counselor as well as a physician and health nurse. Fitness tests and in-house fitness classes are also popular in Finland. The FIOH Small Workplaces Program focuses on promotion of the well-being of personnel in small workplaces, and enhancement of company productivity through OHSs, occupational safety and professional expertise\textsuperscript{[9]}. In Japan, general curative service is rarely provided for employees in SMEs in the occupational health setting but in normal medical care, for which both employer and employee pay medical insurance premiums. Curative service can be included in OHSs in Finland, but SSEs in Finland, especially those contracted to municipal health centers, often do not want to buy this service because the municipal health center covers all the citizens of a given municipality free of charge.

Subsidiary and special programs for SMEs

In Japan, there are several subsidiary programs for promoting OHSs for SMEs\textsuperscript{[19]}. Half of the cost of occupational health and safety activities is subsidized if a group of SMEs is organized to fulfil the necessary conditions: e.g., holding joint occupational health and safety committee meetings regularly. The cost of OPs for SSEs can be subsidized to some extent. Advisory service by the ROHC is free of charge. As for specific services, two-thirds of the Total Health Promotion Plan for enterprises with less than 300 employees is subsidized for the first 3 years.

In Finland, the cost of OHSs that satisfy the requirements stipulated in the Good Occupational Health Services can be subsidized by 50%, but this system is applied to all enterprises irrespective of size. The nationwide action program, which began in 1995 to provide SSEs with comprehensive services, is free of charge. This program targets not only classical occupational health but also other related areas, including maintenance of work ability and productivity. For this purpose, it involves many organizations, including frontline providers, employer organizations, occupational rehabilitation and training centers and FIOH\textsuperscript{[8]}.

Coverage

The target population of the occupational health law and resources for OHSs are the important determinants for the coverage of OHSs\textsuperscript{[9]}. The Japanese occupational health and safety law is applied to enterprises with at least one employee, but not to the self-employed, including farmers and fishermen, nor to workers in some public sectors. In regard to advisory OHSs in 1993, a survey by the Ministry of Labor reported high coverage, that is, the appointment rate of OPs, for enterprises with 50 employees or more. Recent establishment of the ROHCs makes it possible to cover smaller enterprises with the free service as well, but few enterprises have applied for this service so far, due to the limited resources of the ROHCs\textsuperscript{[20]} and/or no legal obligation for the employer to use the service. Utilizing existing channels of OHSs for SMEs\textsuperscript{[16]} is a possible way to extend the coverage. The Finnish law is applied to all workers irrespective of the industrial sector or size of enterprise, and obliges all employers to organize OHSs, and entitles the self-employed, including farmers, to join the service. In addition, several OHS models, from which the employer is free to choose, facilitate expansion of the coverage. The municipal health center is especially vital for SSEs and the self-employed in rural areas, but it has been pointed out that the municipal health center is lacking in occupational health resources, partly due to its responsibility for community health care. The estimated coverage in 1992 was about 90 percent of salaried employees and 60 percent of enterprises\textsuperscript{[3, 18]}.
Preventive and occupational elements

The figure illustrates the areas presently covered by OHSs for SMEs in the two countries using two axes: preventive and occupational elements.

In Japan, general health examination is widely provided even for SSEs; over 70 percent of enterprises with 10 to 29 employees carried out the examination in 1992\(^\text{15}\). Among the legally prescribed roles of OPs, services related to health management, such as carrying out health examinations and providing health advice, are the most frequently utilized\(^\text{21, 22}\). Similarly, the services of ROHCs are primarily used in giving advice to workers on health issues\(^\text{23}\). This function of health management would be further strengthened by the recent amended legislation, which requires the employer to prepare health advice for employees after their health examinations and, if necessary, to be advised by the OP on work limitations according to the worker’s health status. Advisory service on environmental management to eliminate or control exposure is less frequently provided\(^\text{21, 22}\). Therefore, OHSs for SMEs in Japan could be characterized by general health management with prevention of adult diseases and promotion of workers’ health through general health examination followed by health advice.

In Finland, the law obliges employers to use OHSs, which begin with an assessment of risks in each workplace, followed by more specific services such as exposure monitoring and specific health examinations. Accordingly, occupational health personnel first visit client enterprises and assess occupational risks with the employer and employees’ delegates to determine the content of services. Preventive service, officially stipulated as Good Occupational Health Services, is promoted by providing 50 percent reimbursement of the cost. Curative service can also be included in OHSs on a voluntary basis. Even if curative service is not included, it can be provided by general practice at the municipal health center. This situation enables OPs specialized in occupational health to diagnose occupational diseases, and then report them to the registry. Thus, OHSs for SMEs in Finland emphasize assessment and control of occupational exposure, but contain some curative elements. It should be noted that the contents of OHSs are determined at the enterprise level based on a risk assessment.

Multi-disciplinary approach with good coordination

Comprehensive service can be provided by occupational health personnel with multi-disciplinary skills or by a multi-disciplinary team. Education and training is the key to the former, and coordinating different services at the workplace level is required in the latter.

In Japan, the legally stipulated role of OPs is multi-disciplinary, from the assessment of workplace risks to workers’ health management, but so far the practice has been mainly general health management\(^\text{21, 22}\). The recent course authorized by the JMA is expected to train OPs to be competent in other areas of occupational health\(^\text{13}\). The role of ONs in occupational health is limited to health advice, and other personnel provide services such as carrying out health examinations or work environment measurements. As employers buy different OHSs from several providers in many cases, coordination between such providers at the enterprise level is essential to make their services efficient and effective. The ROHC offers its service to SSEs as a team, which normally includes a director, a OP, a ON and a coordinator\(^\text{20}\).

In Finland, the law concerning OHSs allows various personnel to participate in an occupational health team because it does not specify the occupation required for the service. OPs and ONs are the standard personnel in the frontline OHS team, which is joined by a physiotherapist in some cases. Besides a training course specialized in occupational health for OPs, the FIOH prepares a complementary training course in occupational health for frontline personnel. Expert service, such as hygienic measurement, is usually referred to FIOH. The special program for SSEs is comprehensive: it targets not only occupational health but also related areas, for which multi-disciplinary services are integrated at the workplace level\(^\text{8}\).

In conclusion, Finland has attained wider coverage of OHSs than Japan, not only by more comprehensive legislation but also by means of flexible OHS models. In Japan OHSs are mostly directed at workers’ health
management, whereas in Finland they are used starting with an assessment of risk at work. Both countries have recently prepared OHSs specific to SSEs; the Finnish approach is to integrate various services at the workplace, whereas the Japanese one is to establish a new organization specific to SSEs. In the future, as these systems develop, they should be evaluated from various points of view, including productivity and the quality of the product.

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