

Study on a Model for Future Occupational Health: Proposals for an Occupational Health Service Model in Japan^a

Toshiaki HIGASHI

Department of Work Systems and Health, Institute of Industrial Ecological Sciences, University of Occupational and Environmental Health, 1-1 Iseigaoka, Yahatanishi, Kitakyushu 807-8555, Japan

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Abstract: The Study Model for Future Occupational Health (funded by a research grant from the Ministry of Health, Welfare and Labor) is a joint research project involving various organizations and agencies undertaken from 2002 to 2004. Society has undergone a dramatic transformation due to technological developments and internationalization. At the same time a low birth rate and an aging population have resulted in an increase in both the percentage of workers experiencing strong anxiety and stress in relation to their jobs and the working environment and the number of suicides. As a natural consequence, occupational health services are now expected to provide EAP, consulting and other functions that were formerly considered outside the realm of occupational health. In consideration of this background, the present study propose the following issues to provide a model for future occupational health services that meet the conditions presently confronted by each worker. 1. How to provide occupational health services and occupational physicians' services: 1) a basic time of 20 minutes of occupational health services per year should be allotted to each worker and to all workers; 2) the obligatory regulations should be revised to expand the obligation from businesses each with 50 or more employees under the present laws to businesses each with 30 or more employees. 2. Providers of occupational health services and occupational physicians' services: (1) reinforcement of outside occupational health agencies; (2) fostering occupational health consultant firms; (3) development of an institute of occupational safety and health; (4) support of activities by authorized occupational physicians in the field; (5) expanding of joint selection of occupational physicians including subsidy increase and the extension of a period of subsidy to five years; (6) licensing of new entry into occupational health undertaking. 3. Introduction of new report system: (1) establishment of the obligation to submit reports on risk evaluation and improvement measures; (2) establishment of the obligation to prepare a report on results of medical examinations in all sizes of businesses. 4. Introduction of a merit system into businesses in establishment of a new system: the application of the special merit system of the workers' compensation insurance shall be revised to add occupational health activities, cover business with 20 or more to 100 or less employees and expand the period of application for three years under the present laws to five years. 5. Ensuring of international coordination: harmonization of standards of individual countries for occupational health and safety; thorough (1) ensuring of international agreement on high-level specialist qualifications; (2) mutual recognition of qualifications of occupational physician, nurse, occupational hygienist, ergonomist, and counselor; (3) preparation of guidelines for occupations relating to occupational health businesses.

Key words: Diversity of working style, Occupational health service, Service providers, Global harmonization, Equity in health

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Table 1. Current issues of occupational health services

(1) Corporate social responsibility (CSR)	Environment fund, making occupational health a priority in companies and organizations
(2) Occupational health issues in overseas expansion	Prevention of infection, risk management, global risk and local risk
(3) Mental health measures, measures to prevent excessive heavy labor	Expansion of “pay for performance” concept, increased competition, increased compensation for deaths from overwork and mental illness, diversification of forms of employment
(4) Harmonization of work safety and health management systems with existing occupational health activities	
(5) International harmonization of occupational health qualifications, training and education	
(6) Consolidation of occupational health service system	
(7) Establishment of various systems for applying and managing information	
(8) Provision of occupational health services to every worker	

Issues in the Study on Model for Future Occupational Health Services

The Study on Model for Future Occupational Health Services (funded by a research grant from the Ministry of Health, Welfare and Labor) is a joint research project involving various service providing organizations and agencies undertaken from 2002 to 2004. The situation in occupational health is rapidly changing. Society has undergone a dramatic transformation due to technological developments and internationalization. At the same time a low birth rate and an aging population have resulted in an increase in the number of women and foreign workers in the workplace and work conditions and types of occupation are rapidly diversifying due to the widespread adoption of discretionary work system, an increase in small-scale distributed offices and the emergence of SOHO, telework, etc. There is concern that the effects of this situation on occupational health are also diversifying (Table1). The percentage of workers experiencing strong anxiety and stress in relation to their jobs and the working environment and the number of suicides are increasing. As a natural consequence, occupational health services are now expected to provide EAP, consulting and other functions that were formerly considered outside the realm of occupational health. What is needed are health services with greater independency that correspond more closely to the objectives of various types of business.

In consideration of this background, the purpose of the study is to determine the current situation in each country through surveys and to propose a model for future occupational health services that meet the conditions presently confronted by each worker. Specifically, the study will focus on the following three issues:

1. Regulations governing the scope of occupational health services;

2. Methods of providing occupational health services; and,
3. Conditions of occupational health services in other countries and their integration with the Japanese approach to occupational health services.

Three study teams have been established to implement the respective surveys, as follows:

- (1) The Company Risk Management Study Team, which will examine regulations governing the scope of occupational health services, the formulation of related management guidelines (examples) including crisis management, the policy for making guidelines, and management of personal information.
- (2) The Occupational Health Service Effectiveness Study Team, which will examine the methods by which occupational health services are provided in Japan to determine their effectiveness. The study will include organization, content and timeframe, as well as cost, manpower and service effectiveness (business viability).
- (3) Team for Comparative Study on the State of Occupational Health Services, Qualifications and Education in Different Countries, which will examine the conditions of occupational health services in other countries and their integration with the Japanese approach, the scope of occupational health and related legislation, the organization of occupational health services, and financial support.

On the basis of the above, we would like to undertake the following studies:

- 1) Comparative study on the current situation of occupational health services, qualifications and education in each country
- 2) Examination of issues and trends in occupational health services
- 3) Study on the effectiveness of occupational health services

in Japan

- 4) Topics concerning the provision of occupational health services
- 5) Study on risk management (scope of occupational health) and crisis management related issues
- 6) Scope of Occupational Health
- 7) Information management

To summarize, the objectives are (1) to determine the scope of occupational health, (2) to identify methods of providing services, and (3) to examine integration of the systems of each country, and the material results are (1) background data and results of analysis, (2) comparison of actual situation and results of comparison, and (3) goals for necessary guidelines.

Issues in Occupational Health and Scope of Occupational Health Service contents

The Company Risk Management Study Team clarified the contents of occupational health work in companies and organizations. This can be regarded as defining the types of occupations in which occupational health professionals should be involved. Even if the main actors are businessmen or company employees, health professionals are considered to be indirectly involved. By identifying the functions demanded of the occupational health profession, we are actually indicating the skills required to perform this work and the content and methods of the training needed to acquire them. In a society in which work content is constantly evolving, we have reached the stage where we must reexamine the scope of work for occupational health professionals, including identifying the various levels of professionalism that correspond to the specialized skills required to perform the work of, for example, an occupational physician.

The appointment, conditions and scope of work for occupational physicians as stipulated by law is summarized below. It may be unnecessary to remind our readers but appropriate measures can be devised for new issues that are identifiable within existing laws through supplementation by official notices in response to the needs of the times. It is worth reviewing how to read the contents of existing legislation. Item 1, Article 13 of the Ordinance Industrial Safety and Health, stipulates that specialized knowledge is a requirement in the field of medicine while Article 14 of the Ordinance identifies the “work content of occupational physicians and industrial dentists” as follows: 1. Health checkups and measures to protect the health of workers on

the basis of the results; 2. Activities related to maintenance of a healthy work environment; 3. Activities related to work management; 4. Activities related to health management for workers other than those listed in 1 to 3; 5. Health education, consultation and other measures to maintain and improve the health of workers; 6. Health education; and 7. Surveys to determine factors detrimental to workers’ health and prevention of reoccurrence.

The scope of occupational health services identified by the study on a model for occupational health includes crisis management, activities to introduce and promote management systems (OSHMS), greater involvement in measures for mental health and prevention of overwork, new measures to promote health in order to contribute to productivity, measures for elderly workers, and measures to protect mothers. Concerning mental health, overwork, health promotion, measures for elderly workers and protection of mothers, there needs to be an awareness that these are part of corporate responsibility. Concerning work content, we attempted to examine the importance of the work content described above and the ways professionals are involved for each of the categories that lead to the conventional 3 types of management (Table 2).

In our examination of crisis management, we reached a consensus that countermeasures against terrorism in the form of chemical or biological weapons is also an important aspect of occupational health work in companies where workers are at risk. Technically, such countermeasures share many features in common with measures implemented at the time of a natural disaster, major accident or epidemic. These include the acquisition of specific skills needed for medical triage, emergency treatment and on-site management as well as necessary education for staff and others. In terms of CSR, sufficient safety management for both workers and the working environment, including waste disposal, is also necessary with regards to chemical substances used or handled by companies in their business activities. The knowledge and technical skills of professionals will be needed in implementation. In company crisis management, it will be necessary to continue preparing guidelines concerning the areas in which occupational physicians and occupational health professionals should be involved. (In the case of countermeasures for biochemical threats, necessary guidelines for equipment, manuals, information systems, human resource development, etc. should be prepared by the company or by an occupational health organization in the local area.)

The introduction of management systems is recognized as a necessary process for independent or autonomous

Table 2. Definition of the range of services provided by occupational physicians (by utilizing the definition of occupational health management)

	Health management	Work environment management	Work management	Occupational health education	Comprehensive management
Definition	Management of "humans"	Management of "workplace"	Management of "working"	Operation of "education"	Goal of management
Management	Treatment of diseases Management of diseases	Emergency measures against harmful environment, and investigation of work environment	Suspension of working Pursuit of cause: Trouble of upper limbs	Therapy Exercise therapy Diet regimen	Observance of legally specified matters
Prevention	Health examination and subsequent measures	Improvement of work environment	Improvement of working: Rotation	Health guidance	Obligation to care for safety and health
Development	Retention and enhancement of health (Nutrition, exercise, rest)	Creation of comfortable work environment	Making working comfortable: Working gentle to humans	Health education	Risk assessment
Qualification of person in charge	Physician, nurse, and Industrial health manager	Working environment measurement expert Industrial health manager, physician	Physician Industrial health manager	Physician and nurse Industrial health manager	

management. The involvement of occupational health professionals is very important at the level of risk management and in the proposal of effective measures. For active use of management systems, those involved must understand the meaning of their actions and maintain the ability to reliably implement the measures and to recognize and resolve any problems. The involvement of occupational health staff in education for this purpose will become increasingly important.

Stress is increasing not only in the business world but also in society as a whole. Accordingly, measures to protect mental health and prevent overwork are extremely important in maintaining the health of the productive population, which constitutes the foundation of society. In 2004, an attempt to establish legislation that would make it obligatory for occupational physicians to conduct interviews depending on the number of hours worked and for companies to implement measures based on the opinions of the occupational physician was shelved and many doubted that the attempt would have practical effects. While opposing regulations that could restrict business activities, health professionals are, at the same time, concerned that they will be expected to take responsibility despite the absence of authority or appropriate status. In other words, there is a risk that if the groundwork has not been laid for companies

to heed warnings by health professionals, guidance for individual workers will not lead to solutions and when a problem arises, the occupational physician will be blamed. Yet there is no mistaking the fact that this is a very important duty of occupational health staff and it is necessary to promote related training, education and manual production.

It cannot be denied that the popularity of the Total Health Promotion Plan (THP), which was introduced immediately at the policy level in Japan, is beginning to wane. In American companies, such plans are being carried out more strategically by the workplace and are becoming firmly established as part of company strategy and as part of the individual's self-maintenance of working ability. In Europe, the importance of promoting the health of the working population in contributing to productivity and as a policy for an aging society has been recognized on the basis of solid evidence and this has accelerated the health promotion movement. Although the programs of the respective countries differ in some ways from the THP, based on this foundation it is highly meaningful to develop new health promotion policies that expand individual ability among the productive population and foster productivity. For this purpose, businesses need to prepare the internal and external resources that make possible the development of a health index, assessment of the effectiveness of health information use and the provision

Table 3. Redefinition of occupational health management by vector (by utilizing the definition of occupational health management)

	Goal of comprehensive management	Work environment management	Health management	Work management	Education
Management	Management of dangerous machinery and harmful materials	Patrol Understanding of measurement results of work environment Protective tools	Consultation with physician in charge of disease management Diagnosis for rehabilitation	Alleviation of muscular burdens	Education for checking diseases (second opinion)
Prevention	Measures for preventing risks and health troubles	Improvement and maintenance of work environment Risk share Evaluation of biological monitoring	Health examination, and subsequent measures	Evaluation of muscular burdens	Guidance given to person with symptom
Development	Efforts for creating comfortable workplace	Understanding of hazard risk Measures against tobacco smoking	Support for retention and enhancement of health	Work gentle to humans	Education required for THP activities

of tailor-made plans as well as the permeation of knowledge that enhances the capacity of occupational health staff.

Policies for elderly workers and protection of mothers will continue to be important in the future but we lack concrete guidelines or manuals. It will be necessary to adopt measures that prevent discrimination against individuals and to impress upon businesses the importance of promoting employment of the elderly and mothers. In Japan, which was one of the first advanced nations to face the problem of a declining birth rate and aging society, this is the most important issue confronting us in terms of maintaining our socioeconomic base. In the maintenance of such employment, protecting the health of workers and their families is a fundamental source of security and therefore the importance of this issue in occupational health will continue to increase.

Such activities do not exceed the scope of existing occupational health related legislation or the content in which various agencies engaged in occupational health activities have been involved in some form or other (Table 3). Reference to the scope of work stipulated in Article 14 of the Ordinance on Industrial Safety and Health reveals that a basis for these activities can be found in existing legislation. It is necessary to reorganize the content to make it more effective and consensus-based (consensus on the detailed contents will also be required) as well as to make the necessary concrete guidelines and manuals and to develop the human resources and system capable of actual implementation. The problem confronting Japan is the lack

of an advanced specialized course such as those found in Europe and North America for training professionals in the occupational health field. It will be necessary to establish an agency to implement such a course for the promotion of independent and strategic occupational health activities.

Issues in Occupational Health: Means for Providing Occupational Health Services

The greatest issue in the study on a model for occupational health performed by The Occupational Health Service Effectiveness Study Team and Team for Comparative Study on the State of Occupational Health Services is the framework for providing occupational health services to every worker. This requires not only human resources and agencies to provide the services but also an economic basis. The number of workers employed by each scale of business enterprise is as follows: businesses with 1 to 9 employees, 11,278 (1,000 workers, percentage employed in this scale of enterprise 22.2%), number for businesses with 10 to 29 employees, 12,063 (23.8%, cumulative 46.6%), 30 to 49 employees, 5,720 (11.3%, 57.3%), 50 to 99 employees, 6,405 (12.6%, 69.9%), and 100 to 299 employees, 7,460 (14.7%, 84.6%), and the number of people working for businesses with over 300 employees was 7,796, accounting for 15.4% of the total. From this it is clear that the minimum criteria under current law, which requires the appointment of an occupational physician and occupational health manager in businesses

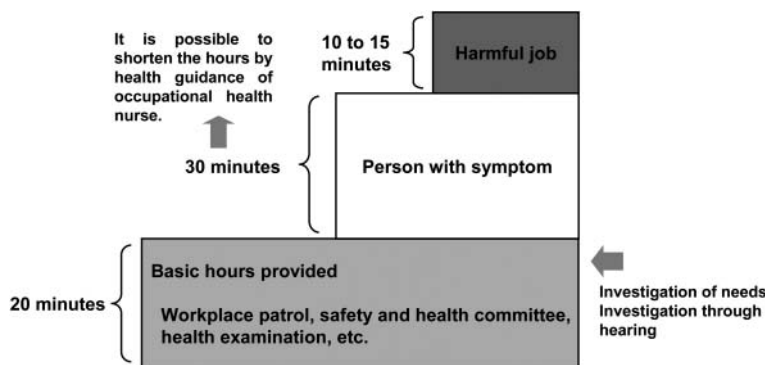


Fig. 1. Hours for occupational health services provided per worker.

with 50 or more employees, covers only about 40% of workers. Thus coverage under the existing system in which regulations are based on business scale is limited.

Necessary hours for Occupational Health Services per workers

In addition to full-time employment with a company, however, there are also many other forms of employment, including temporary work, commissioned work, part-time work, discretionary work and working at home. This situation demands major changes in the model for provision of occupational health services such as the need for systematic and dispersed methods of provision. In addition, the increase in businesses offering 24-h service and low wage labor has raised the issue of how to solve such problems as the timing of service provision and relative cost. In order to address this problem, we must consider what criteria should be used to ensure the quality and quantity of occupational health services. One approach is to decide the amount of service time per worker.

In Germany, each worker is allotted between 15 to 30 min annually and higher risk jobs are allotted more time. In France, workers are allotted about 20 min annually and the system is organized to allow one occupational physician to handle about 2,000 people.

Judging from the services currently being implemented in Japan, about 20 min per person annually is necessary. Our study indicated 20 min as basic necessary hours per workers for sufficient service and additional 30 min and 15 min for workers with symptoms and with harmful job, respectively, through the data from quality assured OHS institutions and Occupational Physicians (Fig. 1, Table 4-1, 4-2). This is the amount of time actually used by the occupational physician but if the amount of time is adjusted case by case in cooperation with other occupational health

staff, providing people who need more time with more and those who need less with less, a case load of 2,000 workers per occupational physician should be feasible. With teamwork among nurses and health professionals, counselors and clinical psychologists for general health and health managers, human engineering experts, health engineering managers, occupational health consultants and others for specific occupations, it should be possible to achieve a more rational provision of services.

OHS providing system for all workers

Rather than relying solely on doctors contracted to work within a company or non-corporate service providers such as occupational health agencies, medical agencies and local occupational health centers, it is also necessary to develop service providers based on teams of experts to ensure a more rational provision of occupational health services. The English-style service offices, which are spreading throughout Commonwealth countries in the Asia-Pacific region, are an example of this. A model for effective occupational health services must reflect the characteristics of the region and type of occupation. Some examples which come to mind are independent services rooted in the community and collaborative-type services that utilize an inter-regional network. To give an example from a different field, this is similar to architectural offices, which utilize existing businesses and social institutions for construction and procurement of materials. In the field of occupational health, occupational health service offices under contract to businesses can serve the same function as architectural offices, utilizing health examination agencies, work environment surveyors, medical service sectors (hospitals, etc), inspection and/or auditing organizations and research institutions.

Among the most developed countries, occupational health

Table 4-1. Hours provided by staff involved for occupational health

Staff	Absent (number of persons)	Hour provided (median value)	Present (number of persons)	Hours provided (median value)	<i>p</i> value (Wilcoxon rank-sum test)
Industrial health manager	5	42.2	69	37.2	0.49
Occupational health nurse	64	39.7	10	23.4	0.014
Consultant (industrial health)	28	39.5	46	36.3	0.27
Consultant (engineering)	65	36.8	9	42.8	0.22
Clinical physician	15	38.7	58	37.1	0.4
Measurement expert for work environment	67	37.5	7	37.1	0.49
Counsellor	57	38.9	17	32.8	0.15
Clinical psychotherapist	71	37.1	3	47.8	0.2

Table 4-2. Time (hours) spent for subsequent measures: Harmful jobs, and hours provided for the jobs

	Number of answers	Median value	Range	First quartile	Third quartile
Persons with no symptom	111	0	0–5	0	0.1
Persons with symptoms	110	0.5	0–40	0.3	0.75
Persons with symptoms (special health examination)	106	0.5	0–16	0.2	1
Diagnosis for returning to work	106	1	0–30	0.5	2.5
Suitable work assignment	101	1	0–30	0.5	2
Suitable work assignment (Case examples of mental health)	105	2	0–30	1	4

service are focused on health checkups and follow-up measures and much less time is allotted to prevention, which is internationally recognized as the main constituent of occupational health services. Nor can it be said that regular workplace inspections and participation in health committee meetings, which are stipulated by law, are being strictly observed and there is a risk that spending time on these activities could place restraints on more useful activities.

New OHS service providers and professionals skill

The consensus reached after much discussion was that the current times demand an option in which health professionals with the necessary skills to provide the services play a central role. We envision an office employing health engineers, human engineering specialists, psychiatrists, etc. on a contractual basis in addition to full-time doctors, health professionals, consultants and counselors (including clinical psychologists). In fact, it would also be acceptable to develop EAP service agencies to perform broader functions. It is important to strengthen non-corporate occupational health agencies to serve as comprehensive occupational health service agencies for medium sized areas. In addition to their importance as existing external service providers, they can become the parent organizations for developing occupational

physicians to serve in large corporations and occupational health professionals as well as specialists through both practice and training. They are also expected to develop business cooperation with independent offices.

The cost of such agency services will be calculated from the standard cost per person. A reasonable cost is about 1,000 yen per person for services other than the costs of health checkups and those to be born by specific businesses. Although this figure is equivalent to wages for one to one and a half hours of work at part-time wages, whether or not people perceive it as high will depend upon the value they give to occupational health services in their business activities and their assessment of service quality.

Channels for the Provision of Occupational Health Services

As “outside occupational health agencies” will play a central role in occupational health services, their development is extremely important. Although the occupational health services provided by these agencies may cover some large corporations and some companies with less than 50 employees, the main recipients of these services will be middle-range companies. In 2002, large companies with

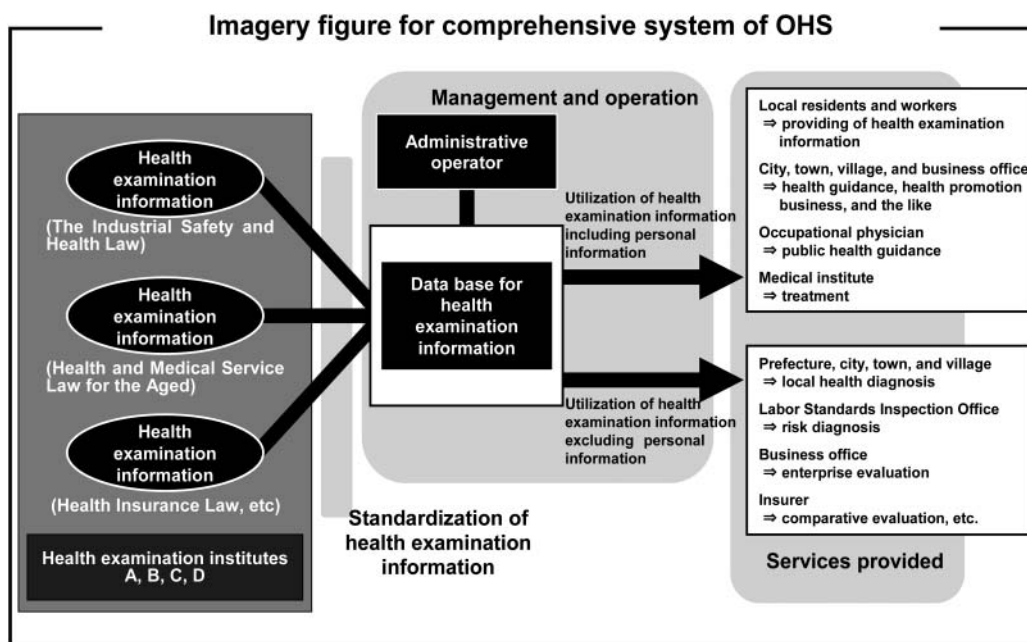


Fig. 2. Composition of health management by institutional collaboration job category.

occupational health service divisions within the company or workplace accounted for only 10% of the total number of employees and the number is declining. Due to the shift towards independent administrative corporations and the resultant increase in the number of workplaces and employees to which the Industrial Safety and Health Law applies, the extent of this trend is not so obvious on the surface but the decline in coverage is expected to continue as companies downsize or spin off.

Promotion of Service providing agencies

While bearing in mind that there are discrepancies in some definitions, measurements, names and situations, the percentage of workers eligible to receive occupational health services in advanced countries is estimated as follows: nations that have the highest percentage are Finland at 94%, Sweden at 80%, and France at almost 90% (officially 100%), followed by Holland at 43% and England at 31% in the middle range and by the United States at 17% and Denmark at 13% with the lowest, although some allowance must be made for differences in the system. Japan belongs to the middle range with an estimated coverage of about 40%. This percentage is certainly not high. One cause of this is that medium to small businesses and large corporations with many branches such as distributors have been slow in taking appropriate measures and there is no framework or organization to satisfactorily provide occupational health services to the

sectors employing a large number of workers. The development of agencies capable of providing services to this sector is obviously extremely important as shown in Fig. 2 in the framework of collaboration (Fig. 2).

Education and training of OHS professionals

The human resources required by such an agency are a related issue. There are several levels of specialization among occupational physicians but both corporate and outside occupational health agencies require physicians with a high skill level. One of the primary purposes of universities for occupational health and medicine should be to train such resources and ensure that they receive appropriate recognition for their level of skill. It will be important for corporate and outside occupational health agencies to actively recruit medical specialists as experts who have the requisite skills to win the trust of society and who can be used to appeal to the public. Agencies providing services to small and medium scale businesses and workplaces in particular will need a framework for accumulating and exploiting skills and ability that will enhance the effectiveness of occupational health services. This will be more meaningful to ordinary citizens than just a list of registered occupational physicians. It will therefore be necessary to train human resources with a high level of expertise and to promote *de facto* rather than *de jure* social recognition. It is anticipated that agencies will provide a venue for the practical training of such human resources.

Role of outside occupational health agencies (service providers)

The role of outside occupational health agencies in supplying human resources and outsourcing health management, professional work and services for employees of medium to small-scale businesses is expected to become increasingly important. Independent agencies and offices with teams of occupational health professionals are expected to develop in Japan as well and they will also likely serve as agencies for training human resources. As health checkups are but one form of occupational health activity, the perception that occupational health services and the status of occupational physicians are mere accessories to health checkup service orders should be corrected.

Due to the current shortage in physicians conducting health examinations, which stems from a series of changes following designation of clinical training as compulsory by health examination agencies, this departure from the original positioning focused on the health assessment activities by such organizations as the National Federation of Industrial Health Organization is urgently required. For example, in case of UOEH graduates, assessment of adequacy must be based on the actual content of the activities undertaken by individual graduates. To avoid misunderstanding, however, it must be pointed out that this proposal differs from that of agencies that provide scholarships.

Conclusion: Proposals based on this study

Proposals for the way that the occupational health should be in the future have been prepared from this study as presented above. These proposals have been finally prepared from repeated discussions with researchers who shared this study with this author and research cooperators about the results of this study titled “A Study on the Way that the Occupational Health Should Be in the Future”. Proposals presented in the reports of individual research groups were included in the comprehensive proposals as shown in the Appendix.

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Co-researchers

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Mamoru Hirata (National Institute of Industrial Health)
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 Seiji Yamada (Matsushita Science Center of Industrial Hygiene)

Advisories

Toshiteru Okubo (UOEH, Japan)
 Yoshihisa Takase (Japan Medical Association)
 Takashi Hanyuda (Japan Medical Association)

Assigned researchers

Masanobu Kaido (P&G, Japan)
 Tsuyoshi Kawakami (ILO Regional Office for Asia and the Pacific)
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Appendix: Proposals based on the study

Proposal 1. Duties of occupational physicians

The core work of occupational health is to reduce health risks in workplaces, and the core service in the work of occupational physicians is the diagnosis of employees for their management in the workplace and for their return to the workplace. In order to accomplish these works, the ten items given below are needed as duties of the occupational physician.

Especially, as new duties the occupational physician is required to address countermeasures against terrorism, influx of infections from overseas, and environmental problems. From the viewpoint of ensuring the protection of personal information that has surfaced as a social problem in recent years, the occupational physicians are required to perform their work with responsibility for information management as one of the duties of dealing with the important personal information of results of health examinations.

- 1) Medical examinations and subsequent management
- 2) Workplace inspections (comprehension of the present situation of the workplace)
- 3) Health Committee and Occupational Health Committee
- 4) Health education and occupational health education
- 5) Personal interviews (occupational health guidance, health education, health consultation, etc.)
- 6) Mental health management
- 7) Overwork management
- 8) How to cope with industrial accidents and health impact investigations
- 9) Health and health crisis management (crisis management)
- 10) Health-related information management

Proposal 2. How to provide occupational health services and occupational physicians' services

The minimum standard of the present laws stipulates that a business office with 50 or more employees shall select an occupational physician and a health supervisor, and the number of workers who are subjected to the occupational health services and occupational physicians' services is only about 42% or so of the whole number of workers. However, the occupational health services are not only required by large-size enterprises, but also these occupational health activities should be provided to all workers. The author of this study proposes the following items for deploying the occupational health services for all workers in consideration of economic burdens for taking the occupational health

services and economic conditions of business offices:

- 1) The obligatory regulation to submit a report of results of periodic medical examinations should be revised to expand the obligation from business offices each with 50 or more employees under the present ordinance to business offices each with 30 or more employees.
- 2) The obligatory regulation to select a health supervisor should be revised to expand the obligation from business offices each with 50 or more employees under the present ordinance to business offices each with 30 or more employees.
- 3) The obligatory regulation to select an occupational physician should be revised to expand the obligation from business offices each with 50 or more employees under the present ordinance to business offices each with 30 or more employees.

The above revision will make it possible to cover about 54% or so of all workers. After observing the spreading of the occupational health services by the above standard, the author of this study proposes the following for deploying the occupational health services for further workers.

- 4) The occupational health services provided by the occupational physicians should be obliged to cover all workers.

On the next stage of the obligatory standard for business offices, the occupational health services should be provided to all the workers by occupational physicians. Concerning the standard of providing services, the basic time for providing the services per worker should be 20 min a year and an additional time for providing the services to a worker should be specified depending on the worker's exposure to hazardous materials or being engaged in dangerous work. The author also proposes that when there is a nurse as a staff member for the occupational health services in a business office, the services provided by an occupational physician should be reduced accordingly, and the amount of services provided by the nurse should be converted into the amount of the services provided by the occupational physician.

Proposal 3. Providers of occupational health service and occupational physicians' services

The occupational physicians provide most of the present occupational health services. In enterprises with 1,000 or more workers, a physician is employed as a full-time occupational physician. In other enterprises with fewer workers, however, a physician is employed as a part-time occupational physician for providing the medical services.

The most of the part-time occupational physicians are employed by ordinary medical-care institutes, and others are employed by health examination institutions, outside health and safety agencies, or universities and research institutions. Furthermore, there are some cases where they work as independent part-time occupational physicians or provide their independent services as occupational health consultants. In order to support part-time occupational physicians who form a majority of the occupational physicians and to make them provide more reinforced occupational health activities to more workers, the author of this study proposes the following:

1) Reinforcement of outside occupational health agencies

In occupational health institutions, in addition to an occupational physician, occupational health nurses, nutritionists, and sports instructors are staffed as providers of the services, and total services are provided in organic combination of those individual specialist personnel, with the desirable quality of service retained. The specialty and uniqueness of the activity and staff are raised through these activities, leading to a good circulation of producing next request. Moreover, there are many outside medical examination institutions through the country, and these institutes already enjoy reliable relations with enterprises. An increase in the outside medical examination institutes can be expected to deploy occupational health services to a wider range of workers for the future.

2) Fostering occupational health consultant firms

It has been found here and there that young occupational physicians become independent as occupational health consultants and start their activities. It is expected that independent specialists will increase, and this will lead to building up a servicing base with a core of these young occupational physicians, where they will be able to cooperate with other occupations. Like a law firm for lawyers, the young occupational physicians will grow into as specialists. It will be necessary to found a service base that should be called "occupational health consultant firm" to steadily respond to demand for services in a district. Such occupational health consultant firm can be valuable resources for occupational health services in the district.

3) Development of an institute of occupational safety and health

At present, with regard to occupational health services, there are a variety of service providers, service organizations, and service offices, resulting in confusing business offices.

An "institutions of occupational safety and health" should be developed as an arranged office of occupational safety and health to clarify an office to be consulted by enterprises, to effectively provide services, and to clearly show the existence of services to be provided.

The Institute of Occupational safety and health not only plays the role of a consultation office but also forms networks with existing organizations including prefectural occupational health promotion centers, regional occupational health centers, labor standards association, outside occupational health institutions, medical examination institutions, and chambers of commerce and industry. This institute will also prepare a variety of reports and notifications in behalf of the workers.

4) Support of activities by authorized occupational physicians in the field

Since the providing of occupational health services for business offices with small members is hard to be carried out on a commercial base, it will be realistic that the physicians in the field with an viewpoint of occupational health and the mind of an occupational physician is involved in providing the occupational health services. Because the sector of risk assessment needs special knowledge and technique in many points, it is indispensable to cooperate with other specialists. Information and training opportunities should be provided, and a consulting office (for offering resources information, activity know-how, coordination functions, etc.) should be designated, so that the practice physician can perform risk assessment and address special problems.

5) Expanding of joint selection of occupational physicians

5)-1 Increase of subsidy

5)-2 Extending of a period of subsidy to five years

Business owners and workers expect the occupational health staff to provide many services to keep the employees' health. Many business owners and workers, however, point out an increase in a burden of cost as a problem for occupational health activities. The system should be revised as mentioned above to lighten the economic burden of the business office and provide occupational physicians and occupational health activities to as many workers as possible.

6) License to new entry into occupational health undertaking

Not a few business owners and workers think that they have no room for increasing personnel for implementing occupational health activities in their workplace. Special knowledge and techniques are frequently needed for

occupational health activities, and therefore lack of services is considered to be due to shortage of personnel. In order to solve these problems, private enterprises and NPO organizations should be licensed to enter these service sectors, so that they will execute the occupational health activities for the authorized occupational health bodies and physicians. Thus, human resources relating to safety and health should be utilized. At present, prefectural occupational health promotion centers alone carry out the joint selection of industrial physicians as one of their exclusive undertakings, but we think that the liberation of these undertakings to the private sector will ensure more enhanced occupational health activities.

Proposal 4. Introduction of new report system

The nucleus of the occupational health activities is a business operator. Therefore, it is indispensable for upgrading and expanding the occupational health activities that the business office itself should vigorously carry out and continue its activities. For promoting the voluntary industrial health activities and understanding the basic data contributing to the activities, we propose the following:

1) Establishment of the obligation to submit reports on risk evaluation and improvement measures

1)-1. All business offices should independently implement diagnosing their workplace every year, identify and evaluate risks to the employees' health in the same way as the case of risk to their safety, and prepare a report of "risk evaluation and improvement management" on how the business office has conducted their occupational health activities and management for decreasing the risks pointed out in the past (risk management).

1)-2. Business offices each with 10 or more employees should be obliged to prepare and submit a report of "risk evaluation and improvement management" to the Labour Standards Inspection Office. The reason why "business offices with 10 or more employees" is that such business offices have selected health or hygiene promoters in their workplaces. The business operator, the occupational health promoter or hygiene promoter should prepare the report.

1)-3. The administration agency should prepare a basic form of report of "risk evaluation and improvement management." In business offices with 50 or more employees, the occupational physician or the occupational health consultant and the hygiene controller should sign the report before it is submitted.

The business operator and workers themselves should promote their own occupational health activities for

lightening health risks in the workplace, so that workers can work comfortably and healthily. We think that the introduction of new regulations mentioned above will be effective for raising the business operator's comprehensive consciousness of safety and health, checking everyday occupational health activities, spreading and promoting of occupational health management system, and contributing to the safety and health supervising administration including periodic supervision.

2) Establishment of the obligation to prepare a report on results of medical examinations in all sizes of business offices

An implementation rate of periodic medical examinations in small-sized business offices remains about 70%: the smaller the size the business office, the lower the implementation rate. However, both business operators and workers point out the spreading of lifestyle-related diseases at a high rate as an anxiety for the health control of workers. Under the present laws, business offices which employ 50 or more workers at all times are only obligated to report to the competent Labour Standards Inspection Office about results of periodic health examinations and medical inspections of employees engaged in specific jobs. It is necessary, therefore, that the obligation to report on the results of medical examinations should be established in all sizes of business offices, in order to collect basic data for health control and promote periodic health examinations in small-sized business offices.

Proposal 5. Introduction of a merit system into business offices in establishment of a new system

The merit system of the worker's accident compensation insurance aims at raising the incentive of business operators to preventing labor disasters. In this insurance system the payment of a labour insurance premium is reduced when industrial accidents have decreased, and inversely the payment of a labor insurance premium is increased when industrial accidents/work-related accidents have increased. At present, the measures for safety and health to which this merit system applies are limited to those for forming a comfortable environment for working. It is clear that a reinforced occupational health management is effective for preventing industrial accidents/work-related accidents, and it is also indispensable for the business operators to reduce their economic burden in order to perform a wide range of reinforced occupational health activities under their motivated consciousness.

1) The implementation of occupational health activities should be added to the application of the special merit system of the worker's accident compensation insurance.

(i) In accordance with the Kihatsu No. 619 of September 9, 1997 issued by the Ministry of Labor "Implementation of Promoting Occupational Health Activity Support for Small-size Business Offices," a business office of the group that made an application for a subsidy to Japan Labor Health and Welfare Organization (a prefectural occupational health promotion center) shall make out and implement "A plan for promoting occupational health activities" that meets the requirements of (ii) and (iii) below.

(ii) The plan shall include one or more of the following health activities:

- A. Holding of a health committee
- B. Implementing of health and hygiene patrols
- C. Holding of a review meeting on disaster cases
- D. Implementing of risk prediction
- E. Holding of a safety and health meeting, or participation in it
- F. Holding of a seminar on prevention of traffic disasters, or participation in it

(iii) The business office shall implement six or more of the following occupational health activities (the activities of A to E shall be certainly included).

- A. Implementing of medical examinations, and raising a rate of taking medical examinations
- B. Patrols in workplaces
- C. Health education and consultation based on the result of medical examination
- E. Hygiene education
- F. Overwork management
- G. Holding of a hygiene committee
- H. Measurement of work environment
- I. Improvement of work environment
- J. Improvement of hygienic aspects, and proposal of ideas
- K. Improvement of hygienic facilities
- L. New procurement of hygienic protection tools, and inspection and maintenance of them
- M. Management of harmful work
- N. Implementing of gymnastics at work and sports athletics
- O. Mental health management

We think that the obligation of reports on the above activities will lead to expanding substantial occupational health activities.

2) The application of the special merit system of the worker's accident compensation insurance shall be revised to read from "a continuous business that meets the conditions of [the number of workers $\geq 0.4 \times$ premium of work-related accidents/industrial accidents] in an enterprise (working unit) with 20 or more to 100 or less employees" to "every enterprise (working unit) with 20 or more to 100 or less employees."

The special merit system of the workers' compensation insurance is infrequently applied to small-scale business offices because the business office must be a continuous business meeting the above conditions. Since a reduction in the scale of business office is now seen, the above proposal is necessarily adopted to deploy more reinforced occupational health activities.

3) The period of applying the special system of the workers' compensation insurance should be prolonged from three years to five years. Also, this special system should be also applied to the construction industry.

We think that the period of application for three years under the present laws is insufficient for the business office to understand and deploy the continuing occupational health activities. It will need five years of the application period to make the business office and operator to understand the spirit of the system and establish the base for continuously implementing the occupational health activities. Furthermore, since one third of the business offices that jointly select occupational physicians belong to the construction industry, the construction business should be included in the application of the above special merit system.

Proposal 6. Ensuring of international coordination

In the Anglo-Saxon type, the point of emphasis in the occupational health activities is moving to how it should be positioned in the business management, and in the type of North Europe, France and Germany, the providing of occupational health services is the obligation of enterprises as a social responsibility. The Japanese system lies midway between those two types. Even if each country adopts its own occupational health system suitable for the country's culture and establishment, many of the main tasks are common among the systems of individual countries, including increase in working ability, health enhancement, proper placement, measures against infectious diseases, crisis management, mental health management, overwork, and young workers. In order to promote the solving of these common problems and protect the health of workers in the world, we propose as follows:

- 1) Harmonization of standards of individual countries for labor safety and health
- 2) Necessity to develop capable people who respond to independent management
- 3) Ensuring of international agreement to high-level specialist qualifications
- 4) Mutual recognition of qualifications of occupational physician, nurse, labor hygienist, ergonomist, and counselor
- 5) Ensuring of international coordination of education and training curriculums for high-level specialist qualifications
- 6) Preparation of guidelines for occupations relating to occupational health businesses