employees visit an occupational physician, nurse or psychologist for consultation because of a work-related health or disability problem, the relationship is of course evident.

In interventions where work and health aspects are integrated in a comprehensive approach, the advantages of both approaches can be combined. Information and interventions can be applied at all locations in the causal chain: work, behavior and health or disease. The relationship between work and health can be a special object of study and intervention. This approach corresponds well with the aims of the legislation in Japan and most other countries. One of the main aims is that work-related and occupational diseases have to be prevented and that the work ability of the working population has to be promoted and maintained.

Description of aspects of OHS in the Netherlands

Responsibilities and legislation

In the Netherlands much attention is given to determine responsibilities for occupational health. The employer is responsible for company policy and for health and safety management, he has to organize risk assessments of all workplaces and is obliged to inform the workers about hazards. He must take care of employees who are absent for reasons of sickness. The employee on the other hand is responsible for safe and healthy behavior at the workplace. He or she has to be active in rehabilitation and in return to work efforts in case of sickness absence. Thus, the main accent is on responsibilities for employers and employees. In addition, occupational health services and professionals are responsible for the quality of the health care delivered and the professional support given. Government has overall responsibilities when additional measures or umbrella activities are needed.

The legislation on OHS is for a large part based upon *European Union* (EU) legislation, especially on the Framework directive (1989) and on specific directives such as on noise and chemical substances. However, concrete prescriptions for professional occupational health services or for support by occupational health and safety experts are not present in EU directives. There are large differences between the member states in social security legislation such as on sickness absence, permanent work disability pensions and compensation schemes for occupational diseases and accidents. Cultural differences can be large as well. Whereas the main accent in France and Belgium is on periodic medical examinations as a favorable occupational health practice, this is not daily practice for most workers in Denmark, UK and the Netherlands. The main accent in Denmark lays on prevention, in the Netherlands on sickness absence measures. Professionals in the Netherlands and UK rely on an evidence-based medicine approach. They stress the necessity to show evidence that medical examinations are indeed improving the health status of the working population. As evaluation studies are scarce, the evidence of periodical medical examinations can be disputed. Historical developments and country specific legislation can add to existing differences between countries. In Denmark occupational health services are almost absent and occupational physicians are scarce. In contrast, OHS play an important role in Finland and the Netherlands, they even cover the majority of the working population. Occupational health nurses and occupational physicians have a prominent role in Finland, UK and the Netherlands. All three countries strive to a multidisciplinary approach e.g. engaging occupational hygienists in OHS.

In the Netherlands all enterprises have been obliged the have a contract with a certified multidisciplinary OHS since an amendment in the Working Conditions Act (Arbowet) in

1994. From that date OHS were commercialized in the sense that no subsidies were given and that the enterprises had to pay for all care and services. Implementation started in 1994 and was completed in 1998. From that year, almost all companies, including most small enterprises, have access to occupational health care. The legal core tasks of OHS were defined in the law as follows:
1. Risk identification and evaluation (risk assessment). The execution of the risk assessment is performed by OHS staff or OHS staff performs a quality check of an assessment executed by the employer or company staff. In the risk assessment is included a plan to implement improvements of working conditions or other forms of control.
2. Periodical occupational health examinations, they are only obligatory when special work risk factors are present such as exposure to noise, solvents, heavy metals and ionizing radiation. The health examination has to be risk oriented, evaluating the actual risk at work using e.g. biological monitoring methods or audiometric assessments.
3. Guidance of workers and occupational rehabilitation when sickness absence is present
4. Occupational health consulting hours for employees
5. Pre-employment medical examinations, although only allowed in special occasions
6. Occupational safety and health policy advices to management and to the workers' council

All OHS had to be multidisciplinary, having at least one expert engaged of the four following certified disciplines: occupational physicians, occupational hygienists, safety experts and so-called labour and organization experts. Many OHS have also occupational health nurses, ergonomists and clinical psychologists on the payroll, but these disciplines are not obligatory. All OHS organizations were also required to be certified by independent certification institutes. These institutes organize an audit every four years. In these audits first the present expertise and organization is assessed e.g. the presence of all four types of professionals. In phase two the quality system is checked (ISO 9001) by document research and visitation (audit). This quality assurance is especially related to the input (qualified staff) and process (procedures, especially as related to the customer). There is no attention for crucial aspects as a motivated staff. Unfortunately, this system is not well oriented on the quality of output and outcome. As services and care are regarded as commercial 'products', little attention is given to e.g. the selection of target groups, the determination of objectives and the question if these objectives were met.

Risk assessments are made obligatory for all workplaces (EU directive) and can be executed by employer or company staff, or by OHS experts. In 2003 75 % of all companies had approved risk assessments of all work places, small companies having the most problems. From 1996 privatization of sickness absence and work disability regulations started as the figures showed that the Netherlands had a large problem in the preceding decades. The main characteristic of the privatization was that not the social security organizations but the employer himself should pay the wages of the workers during sickness absence, making him fully responsible for taking measures to reduce absenteeism. OHS organizations had the legal duty to execute prescribed comprehensive tasks in the guidance of all employees during sickness absence. The result was a dramatic shift in the main OHS activities, from health examinations and preventive activities in the eighties of the last century, toward a high priority for sickness absence consultations and rehabilitation activities in the period thereafter until now. To prevent discrimination of people with a handicap or a chronic medical condition, pre-employment examinations were almost forbidden, with the exception of applicants for work in hazardous working conditions and for jobs that can have serious consequences for clients or the general public, such as professional truck drivers and pilots.

In July 2005, tailor-made OHS professional support was introduced in the law as a new possibility. Companies are now legally permitted to avoid a full contract with an OHS. They can have a separate contract with e.g. an occupational physician, under the condition of an agreement between management and personnel. Thus, less stringent prescriptions for professional OHS support were introduced. In other words: the obligatory provision of rather uniform OHS services for all companies disappeared, which may have consequences in the near future. Another change is that the employer of a small company (less than 10 employees) is no longer obliged to have an OHS staff approval of the risk assessment executed by the company itself, under the condition that he applied a branch specific risk assessment protocol (e.g. a checklist). Companies with 11 – 25 employees can apply for an approval of the risk assessment by an OH expert only on paper, in cases if a branch specific risk assessment protocol has been applied. A contract with an occupational physician is still mandatory for pre-employment examinations, periodical health examinations and medical sickness absence guidance activities. Therefore, every worker still has access to an occupational physician. A new obligation is that every company having more than 15 employees, has to appoint a prevention worker who has important tasks inside the company.

Changes in OHS concepts and activities

One might conclude that a number of changes took place in OHS in the Netherlands in the period 1990 to 2006 that can be summarized as follows:

- From expert responsibility as the main principle, to a restoration of the main responsibilities for the employer and employees
- From care as the leading practice concept, to a consultant practice supporting employer and employees
- From one package of care for every worker and company, to negotiations about the most wanted arrangement of care and services, within the limitations of the law
- From one financial tariff for care per employee per year, to a mixed system including payment for actual hours spend for professional support of workers or the company
- From health, safety and wellbeing as the main objectives, to a more comprehensive approach including much attention for sickness absence, for the maintenance of the working capacity of the working population and for lifestyle disease prevention
- From medical and safety experts, to a multidisciplinary staff including occupational hygiene experts, safety experts, work and organization experts, and others
- From mostly in-company OHS, to mostly external OHS organizations
- From external non-profit OHS organizations and in-company services, to external OHS as profit companies (with some exceptions)

At present 98 % of the working population is covered by OHS or has very recently organized other forms of professional support. Eight large OHS organizations, some of them delivering care to more than 1.000.000 employees cover 85 % of the total working population. In-company OHS services cover about 10 % of the population, small OHS organizations about 5 %. In the Dutch OHS were engaged about 2000 occupational physicians, 300 occupational hygienists, 350 safety experts, 200 work and organization experts, 500 occupational health nurses, 50-100 ergonomists and 50-100 psychologists (2005, estimations). Occupational physicians have had an education as medical specialist including 4 years of postgraduate (post-academic) education. They followed the training course one day a week and they worked four days a week as OP in training. The mean number of employees per full-time OP is about 3000 – 3500 employees. The activities of occupational physicians in 2005 were:

75 % of the working time for sickness absence guidance and occupational rehabilitation, 5-10 % for periodical occupational health examinations, 3-5 % for pre-employment medical examinations, and 10-15 % for medical consultations, information and health education (estimates).

In conclusion, OHS organizations in the Netherlands are still dominated by activities to control sickness absence problems, but as sickness absence is steadily declining we see a reduction of this kind of activities. There is still a low priority for prevention, but clearly more attention for prevention is wanted by OHS organizations and professionals. At this moment most OHS activities are offered by very large commercial OHS organizations. As a reaction, new, small and more innovative OHS organizations are emerging. There are large differences in professional quality between the services, in-company services for large companies often offering the best quality. To defend professional independence and quality against commercialization as pushed by non-professional OHS managers, there have been strong efforts to improve professional quality by the professional associations of all disciplines. One example is the development of so-called evidence based practice guidelines for occupational physicians e.g. for the guidance of mental health problems, low back pain and occupational asthma. Other examples are the development of EBM searching tools, tailor-made for OHS, and the implementation of a professional charter for all disciplines. New is the introduction of professional visitations of occupational physicians (audits by peers) to safeguard professional quality even more.

Universities and TNO (a national applied research organization) are active in research and development in relation to the quality, effectiveness and cost-effectiveness of OHS. As an illustration, from 1999 to 2004 61 thesis projects with direct relevance for OHS care were completed in the Netherlands. The country has a strong international position in research and development in occupational health in comparison with other countries, based on a comparison of international publications. Recently a comprehensive multidisciplinary scientific research and development program was completed on mental health at work (website www.psychischenwerk.nl, for a small part in English).

Future trends

The future trend may include more influence of employers and employees on OHS, at the same time more influence of OHS professionals is expected ('professionals in the lead') and less influence of non-professional OHS managers. To increase the confusion, a growing influence of insurance companies has been predicted as well. Other tendencies might be that branch-wise organizational structures will grow, providing branch specific arrangements of occupational health care and other facilities. OHS will continue to have a multidisciplinary staff, but there might be more medical dominance as the legal obligations for company support by an occupational physician are most accentuated. New developments in the OHS quality infrastructure might include the start of a high quality internet portal for all OHS professionals. This portal would include a well- developed virtual library for OHS professionals to support evidence-based occupational health practice. Another facility would be an easy access to selected expert groups on various topics for the support of OHS professionals. The association of occupational physicians has planned to develop more evidence-based professional practice guidelines in the near future, applying international AGREE criteria to improve the quality. The everyday professional practice of occupational physicians will be enhanced by professional visitation, in other words: audits by peers

(experienced professionals judge professionals). In advanced OHS organizations we expect that economic appraisal methods will be developed and implemented.

Branches and small-scale enterprises

The government in the Netherlands has stimulated a large number of agreements on branch of industry level with management and labour, so-called *covenants*, to reduce industrial risks, sickness absence and work disability. This program is especially relevant for small and medium-scale companies. Governmental financial support for the programs was 30 %, so 70 % is paid for by employers and employees. The agreements between government, employers' associations and unions are related to a large variety of risks specific for each branch of industry, such as lifting, repetitive movements, exposure to chemical substances, post traumatic stress, protection against violence at work, etc. Early rehabilitation in cases of long-term sickness absence was one of the high ranking topics. At present agreements are present in 50 branches such as the police, health care, home care, mental health care, hairdressers, construction industry, hotels/restaurants, municipalities, roofers, insurance companies for health care, orchestras and child care. As an illustration, in health care 8.000 so-called ergocoaches were introduced to diminish physical demanding work, in child care ergonomic measures were implemented to improve work postures and awareness has improved. Mediation in schools (branch education) contributed to the reduction of work conflicts. In hospitals special programs were organized to control aggression against personnel. Other topics were noise control in construction industry and in orchestra, checklists how to handle solvents in printing industries, work pressure control in youth care, ergonomic measures in agriculture, changes in management style in cleaning companies, and allergen control in bakeries. About half of all employees in the Netherlands have been covered by one of the 50 covenants.

Small-scale enterprises are covered by OHS in a variety of forms. Contracts for the delivery of OHS for a whole branch of industry are present for some branches and professionals groups such as for the construction and transport industry, ambulance workers, refuse collectors and firefighters. These contracts provide tailor-made programs including periodic medical examinations, workplace inspections and specific solutions for e.g. ergonomic and safety problems. In some cases OHS offer special care (special contracts) for a diversity of small-scale companies such as a telephone helpdesk service and low budget care including only sickness absence control measures (consultations mainly) and preventive activities only on request. Often occupational health nurses are providing care, using a more practical and easy access approach.

Description of aspects of OHS in Japan

New occupational health issues

Although Japan has the highest health standard in the world regarding life expectancy, social security and advanced medical technology, some urgent new health issues are present today that ask for more attention. Some of these issues are work-related such as the rising number of suicides as the number one cause of death for the people in their 20s and 30s, being the number two in their 40s. Male suicides are increasing, especially the age group of 50s. Economic and life problems are increasingly important causes being the highest for the age group 40 to 59. Suicide rates are associated with the ratio of people feeling stress from the issue of fulfillment in life and family income related to unemployment. Globalization of economic society, computerization and increased service economy has altered economic and social life. Severe economic conditions present in Japan for more than a decade, have caused tough employment conditions. The ratio of workers feeling stress, being troubled and feeling strong anxiety for their jobs and work life increased from about 50 % in 1982 to 61.5 % in 2002. Important causes of stress are human relations at the work place, workload, work quality, employment stability and aptitude for the job. The number of claims for workers' compensation for mental illness peaked in 2003; the number of approved cases is staying at a high level. "Guidelines for Mental Health Promotion of Workers in Work Place" were published by MHLW in 2000. It is regarded as important that employers implement a Mental Health Development Plan including self-care of employees and care provided at work. But also professional care has to be organized e.g. by occupational physicians in good collaboration with external health care institutions. Regional Occupational Health Centers have the task to support employees and employers in small enterprises.
Complex mental health problems such as depressive disorders ask for an answer. In 2004 the Ministry of Health, Labour and Welfare (MHLW) published the guideline " 'Declaration of Mental Barrier-Free'- the guideline for Taking a New Step toward Correct Understanding of Mental Illness" to promote education and support activities to among others workplaces. Every one in five citizens experiences mental illness in their lives. A recent domestic survey demonstrated that approximately 1 in very 15 people have an expression of depression; most of them have no professional treatment. The number of applications of workers for karo-shi increased from 493 in 1999 to 705 in 2003 (peak number in 2002 was 818). The number of certification was high in 2002 and 2003, respectively 317 and 312. The number of mental disorders was increasing both in applications and certifications from 1999 to 2003.
Efforts to balance work and life better stand high on the agenda. Various issues are reported by MHLW such as the rising number of workers working more than 60 hours per week and the low rate of annual leave with pay taken by the workers. Working too many hours overtime and not using paid holidays can have serious negative influences on health. The document "Comprehensive Measures for Prevention Health Hazards with Overwork" was formulated by MHLW in 2002 to prevent cerebral vascular diseases and ischemic heart diseases due to overwork by reducing overtime work and securing annual paid vacation. These measures are taken in addition to the conventional practice of health check and follow-up.

The ageing society and the low numbers of young people, have substantial consequences for working life. Remarkably, the participation rate of women shows a downward trend and their working conditions are subject of much concern. The total labour force will decrease from 66.9 million workers now to 63 million in 2025. In 2015 and 2025 the proportion of elderly workers (60 years and over) in the total working population will increase and the proportion of workers younger than 30 years will decrease substantially compared with the situation

today. One of the reasons is that the pension age will be gradually raised from 60 to 65 years in the next years. Other initiatives are vocational life support for persons with disabilities in order to support their participation in working life.

The dramatic increase of lifestyle diseases as death causes in the second half of the last century is still high on the public health agenda. Not only human suffering is involved but also serious economic consequences are noticed in terms of high medical cost and a high value lost in terms of real gross domestic product (GDPR). Both consequences are brought forward as strong arguments to implement comprehensive health promotion programs. Some authors stress the importance of a positive approach supporting the vitality of the workers and a contribution to an improvement of health in stead of stressing the negative sides.

An old but still important topic is the exposure to chemical substances, including asbestos and dioxin, which has to be kept under control. Each year 500 new chemical substances are brought to the workplaces. MHLW formulated a Chemical Substance Management Guideline to implement self-management for employers, including safety procedures, a management plan, risk assessment and safety actions.

Another issue is the number of industrial accidents of about 540.000 workers annually which is high and only slowly in decline. The social and economic losses are colossal. The annual incident rate is highest in small companies (1-9 workers the highest rate; workplaces of 10-49 workers also having high rates). The number of fatalities is decreasing but still high: 1,628 deaths in 2003. As the number of disasters in companies was rising, MHLW urged companies in 2003 to conduct a voluntary inspection on safety management activities.

Occupational diseases reported include organic solvent poisoning and pneumoconiosis cases. In total 8,055 workers with an occupational disease were reported in 2003, a number demonstrating only a very slight decline since 1993, and even a stabilization after 1998. The definition includes only diseases with an absence of four days or more. Thus, many cases of occupational diseases will not be registered. The proportion of pneumoconiosis and complications is high. The large proportion of low back pain as a result of injuries in the total figure illustrates the problem, that international comparisons of occupational diseases figures are nearly impossible as each country has its own definitions. Presumably there is a substantial underreport in Japan of work-related and occupational diseases, as is the case in many other countries. One of the negative consequences is that government, employers and employees do not have a feeling of urgency in order to improve work and working conditions. Another serious consequence is a lack of overview of the real prevalence and incidence of work-related and occupational diseases and of related hazards in working life. As there is no overview of present bottlenecks, specific epidemiologic studies have to be performed to analyze e.g. serious health impairments as a result of physical and mental demanding work

In contrast to the results in occupational diseases statistics, the percentage of people having findings at regular medical examinations has been steadily increasing to almost 50 % in 2003. In 2003 special medical examinations have been executed for 1,637,878 workers covering 79,055 work places. The percentage of findings increased over the years and was 5.9% in 2003 (97,328 workers). The percentage of people having findings at a medical examination for pneumoconiosis is about 4 % and declining. Most findings were noted for workers exposed to noise, organic solvents, high atmospheric pressure, cashiers, handling heavy goods and care work that puts a significant burden on the waist.

Organization of OHS

OHS in Japan is organized in different ways. The Occupational Safety and Health Law (1972) prescribes how management of safety and health, inclusive professional support, has to be organized by employers. The organization encompasses general health and safety managers, safety officers, health officers, safety and health promoters, and safety/health committees. In the law prescriptions are present on the different kinds of duties and on situations where arrangements are obligatory for companies or workplaces.

Occupational physicians have to be appointed in workplaces which employ more than 50 persons. The occupational physician may work on contract basis unless the workplace employs more than 1000 persons or more than 500 persons in certain kinds of harmful works. In these cases the physician must work exclusively for the workplace in question. Workplaces having more than 3000 persons employed have to appoint two or more occupational physicians. The tasks are to conduct medical examinations, maintenance and management of the working environment and of work, other matters related to the health care of the workers, health and hygiene education, health consultation, investigation of the causes of health impairments of workers and measures to improve them. The physicians should make rounds of the work area at least once a month and should take necessary measures to prevent health impairment, give recommendations to the employer or general safety and health manager. The employer must respect the recommendations. The physician is an active member of the company health committee. Occupational health nurses are also important in occupational health care. In most cases they work closely together with the occupational physician. In some cases they are primarily involved in health examinations and follow-up. In other cases they can fulfill a more active role in health education at the workplace, in workplace visits, in meetings of health and safety committees, and in the presentation of the results of health examinations to the workers and companies.

Occupational physicians in Japan can have completed two different types of training. Most occupational physicians, the total number is about 70.000, are only part-time active in occupational health activities. Basically they are general practitioners or medical specialists. They have followed a short course in occupational health during 50 hours, as is mandatory for all occupational physicians since 1998. They have to follow a limited number of training hours yearly to maintain the registration as occupational physician. Occupational physicians who have passed a comprehensive examination organized by the Japan Society for Occupational Health and completed a long period of training, are subsequently accepted as a member of the Society. They received a high level of education and training as a consequence of this specialist certification plan. In total about 500 OPs are member of the Society. Work environment measurement experts have to be licensed. Nurses can be qualified as public health nurses, but many nurses in OHS organizations are not qualified as such.

There are no legal requirements for occupational health services in Japan regarding quality or kind of specialists engaged. A number of companies, especially large companies, have in-company OHS. Many companies however have outsourced the professional support to external OHS organizations which are active on a regional basis, e.g. starting from one large in-company OHS. Other OHS organizations stem from hospital initiatives offering health examinations to both employees of enterprises and the general community. Actually there is a great diversity in quality and approach between different providers of occupational health care. Employee Assistance Programs (EAP) especially aimed for mental health care and advices are often organized outside the OHS organizations, but in some cases they are integrated.

They offer e.g. counseling programs to companies performed by occupational psychologists and special trained nurses.

Medical examinations are important following the law, to assess individual workers' health, but also to identify problems in the management of work environment and of work itself and can be the start of taking measures to rectify the problems. The employer is responsible for various kinds of medical examinations. General periodical medical examinations have to be organized for all regular workers at least once a year. For workers engaged in specified work, such as those who work in places where there are harmful gases, steam or dust, at least once every six months a periodic medical examination has to be organized. There are in addition extraordinary medical examinations that can be ordered by the Director-general of the Prefectural Labour Bureau. Newly recruited workers will receive a general medical examination.

Special medical examinations covering specified items should be organized to detect harmful effects on workers of special types of harmful work. The harmful works and the specified items are provided by a Cabinet Order and by Ministry Ordinances. In 2003 special medical examinations were statutory organized e.g. for workers exposed to organic solvents (503,839 workers), to lead (89,002), ionizing radiation (190,450), asbestos (18,155), many other specified chemical substances and for high atmospheric pressure workplaces. In total 994,211 examinations were arranged. Special medical examinations were also arranged because of administrative recommendations as for noise (201,742), VDT work (246,713), vibration (40,760) and tools with a trigger (54,615). Including these numbers, in total 1,637,878 special medical examinations were executed in Japan in 2003, an impressive high number. The employer must consider the opinions of the physician and take appropriate measures. The employer must also report the results of the general medical examination to the workers. He also must take an effort to give health guidance by a medical doctor or a health nurse, when necessary.

To enhance industrial health care services of professionals such as occupational physicians, health supervisors and others, in each prefecture an Occupational Health Promotion Center has been set up by MHLW, having as a main task the support of occupational physicians, occupational health nurses and other professionals in the region, e.g. by organizing courses and workshops. They have also the task to improve the healthcare system within workplaces. Important tasks are spreading information, and public relations by e.g. organizing periodicals and spreading videotapes, DVDs, brochures and leaflets on occupational health and safety. They have the task to support the Regional Occupational Health Centers.

Small-scale workplaces with less than 50 employees have difficulties in organizing provisions for health guidance and consultation to workers by occupational physicians. Therefore, in addition to the facilities at prefecture level, 347 Regional Occupational Health Centers have been set up nationwide following the organizational structure of the Labour Standards Inspection Offices. The organization is laid in the hands of local medical associations of counties, cities and wards. The activities are opening health consultation counters (including mental health), visiting individual workplaces, offering industrial healthcare information, giving support to small enterprises when they have questions, work visits if asked for and the provision of subsidies for small enterprises for specified activities. They can also mediate so that health checkups can be offered to small enterprises.

University of Occupational and Environmental Health

The University of Occupational and Environmental Health (UOEH) in Kitakyushu has a central role in the education of occupational physicians in Japan. Many OPs first completed the basic medical training at the UOEH. The postgraduate occupational health training courses at the UOEH have a high quality, both from national and international perspective. A three-month course deals with the basis knowledge as OP and is an approved course of the Occupational Health Physician Certification Program by the Japan Medical Association. Ongoing multidisciplinary research in the Institute of Industrial Ecological Sciences is subdivided in three groups of research: optimization of work environment and health promotion, organizational design and management, risk assessment and standard setting. Research encompasses physical science, engineering, social science, psychology, environmental science and other disciplines contributing to the wide field of occupational medicine. Research and development is also the basis for PhD postgraduate occupational health training programs. In addition international training courses are given, an Occupational Health Information Center offers among others IT facilities and a digital library. The Occupational Health Training Center offers courses to primary care physicians and clinical physicians. UOEH is also actively committed to the education and training of occupational nursing professionals, health officers and working environment measurement experts.

JISHA and the Japan Council for Quality in Medical Examination

JISHA, Japan Industrial Safety and Health Association is involved in educational and technical support to the field of occupational health and safety, in addition providing information and resource materials by the Japan Advanced Information Center of Safety and Health (JAISH), performing research, organizing international co-operation and all kinds of public relations including periodicals, posters, campaigns and seminars. JISHA evaluates occupational safety and health management systems of workplaces on request in order to provide certificates. JISHA supports Total Health Promotion Plans to meet the needs of the ageing working population and the aggravation of the mental and physical health conditions (34,197 workers covered in 2004) and the promotion of comfortable workplaces. In 2004 in total 20,251 comfortable workplace promotion plans were accredited.
The Japan Council for Quality in Medical Examination, established in 1998 and hosted by the National Federation of Industrial Health Organization (NFIHO), has the aim to improve the quality of occupational health services. For this goal quality criteria have been developed including criteria for the qualification of the personnel and for the precision management of medical examinations (examination of metabolic products such as lead and organic solvents; clinical examinations; skills in radiography). In 2005 in total 119 certificates were granted and 101 re-evaluations were performed (once in 3 years). Training courses are given for occupational health staff.

Small-scale enterprises

Small-scale enterprises (workplaces) having less than 50 employees, cover a large part of all employees in Japan. In 2001 almost 31 million workers were engaged in workplaces having less than 30 employees. They represented more than half of all employees. They were working in 5,4 million workplaces on a total of 5,7 million workplaces in Japan. Small-scale enterprises have high accident rates in comparison with larger enterprises. It might be presumed that occupational health conditions are relatively substandard, as can be noticed in

many countries in the world, because risk awareness and knowledge of measurements, threshold limit values and practical solutions, is often limited.

Most workplaces and employees have no access to integrated occupational health care, including work and working environment measurements and advice. Regional Occupational Health Centers have to act as local public consultation services to support employees and employers in small enterprises. To date, a limited number of small-scale enterprises have organized professional support from Regional Occupational Health Centers. Another limited number of small-scale enterprises is paying for services and care by OHS organizations. In some of these cases they pay only for medical examinations and not for workplace visits and advice. Especially occupational health nurses from OHS organizations can be active in workplace visits, in support of the health committee and in giving education. In many cases medical examinations are outsourced to physicians who have presumably not much time or attention for the work-relatedness of health complaints and for present working conditions.

JISHA supports by the Dandelion project, group safety and health activities of small and medium-scale companies, providing technical guidance and assistance by experts, financial support for occupational health activities and several specified services such as measurements of the working environment and specific medical examinations. In 2004 almost 4000 enterprises were involved. A limited number of small-scale enterprises, mostly factories, has been registered in Regional Occupational Health Centers that organize e.g. biannual workplace visits (ergonomics, biomonitoring, environmental measurements) and medical examinations.

Discussion

In Japan many OHS organizations are well developed and provide care and services to a large part of the working population.

Qualifications of professionals

JISHA expressed concerns about the loss of much experience in the next years as many experienced OPs are retiring. Part of the occupational physicians (OPs) being members of the Japan Society for Occupational Health, are well-qualified. The quality of the output of the part-time and less educated occupational physicians might however be subject of study, as they may not be oriented on workplaces and existing hazards. The planned certification of occupational health nurses is necessary to guarantee a high education level. There is presumably a lack of well trained occupational psychologists to deal appropriately with the rise of mental health problems of employees. Integration of Employee Assistance Programs in OHS organizations can offer new perspectives as multidisciplinary co-operation can provide better quality. More in general, the participation of different professional disciplines in OHS might receive more attention, expanding existing interdisciplinary co-operation with e.g. environmental measurement specialists and educational specialists. One might consider committing other experts such as ergonomists and social scientists e.g. clinical and occupational psychologists and work organization experts. The advantage is the possibility to offer a more widespread range of high quality facilities to companies and workers.

Activities of OHS organizations

Health examinations, both general examinations and special health examinations, and health consultations are mostly on a high level. They are performed by well trained physicians and nurses, operating in up-to-date medical facilities, mostly associated with hospitals. The quality assurance activities of the Japan Council for Quality in Medical Examination Questions are important. Other initiatives might be considered seriously such as the development of evidence-based practice guidelines for occupational physicians and other professionals. Guidelines can be developed for health consultations and care, specific periodic health examinations, specific preventive actions, evidence-based lifestyle recommendations, etc. The development of a system of audits by peers, is a method to monitor the actual quality in daily practice. For these activities, an even more prominent role in quality improvement by the Japan Society for Occupational Health might be disucussed. Financial support might be needed from governmental funds.

Questions may be asked on the evidence-base of the health examinations and follow-up. One aspect is the frequency. Why once a year? In France the frequency is now set at once in two years. Prevailing practice in the Netherlands is once in two years (elderly employees) or in four years (younger employees). Time and money might be allocated more effectively for preventive interventions in small-scale enterprises inclusive a well targeted medical approach, or for a well developed mental health care program. Efficacy and effectiveness studies can demonstrate positive effects on behavior or health as a result of the health examinations, or not. Potential negative effects of screening activities have to be included in the studies as is usual.
Work risk assessments as provided by large OHS organizations are presumably of high quality using modern equipment. Questions may be on the use of tailor-made assessment and advice tools, developed for specific occupations or branches of industry, such as for hairdressers, printing factories or agriculture. Specific checklists and recommendations may enhance appropriateness and effectiveness substantially.
An integrated combination of work and health assessments presumably has received limited attention. Thinking of the great opportunity that so many employees visit OHS organizations every year (or maybe in a less frequency), improvements are possible. Asking questions about work systematically or applying branch or occupation specific questionnaires and other assessment methods, can provide a good insight in present working conditions, health complaints and diseases on individual, department, company and even on branch level. Information on these aggregated levels can be used as alerts or for monitoring purposes, to discover problems or maybe favorite developments on department, company or branch level.

In general, evaluation of the effectiveness of OHS activities needs much more attention, as is common in occupational health care in most countries. Relevant questions are if feasible targets are defined and effects (outcomes) measured. Thus, one might question if working conditions indeed are improved, or if work behavior is more suitable after an OHS intervention. For health the question may arise if there is a better health condition or a healthy lifestyle as a consequence of occupational health care. Other relevant questions may be about a decline of occupational and work-related diseases, accidents, suicides, sickness absence, work-related health and comfort complaints. Unfortunately, effectiveness is not self-evident as many studies have shown related to screening programs and occupational health care. Therefore OHS has to be stimulated to set targets, to make a choice for a good evaluation design, to measure process variables and outcomes using valid and feasible tools, and even to add costs in cost-effectiveness evaluations. Universities have the task to support these studies

and practice. In the scientific literature some good examples of evaluation studies in Japan can be found.
Evidence-based medicine is now stimulated by the MHLW within the National Hospital Network. It might be considered that occupational health care could participate in such networking in order to stimulate the quality of occupational health care in favor of the Japanese working population and enterprises. In this way the general policy of MHLW to adopt information technology applications for health care, employment and labour can be made concrete for occupational health services.

Innovations for small companies

To deliver professional OHS support to small-scale enterprises (SSEs) some suggestions can be given, partly based on a comparison between the provisions in the Netherlands and in Japan.

1. One might consider the development of special arrangements for SSE offered by OHS organizations, such as a helpdesk especially for SSEs, and services on request when e.g. telephone of e-mail assistance is not sufficient. Thus forms of low-budget and of stepped care can be developed and implemented.
2. Collective contracts for OHS care in a region or for a branch of industry such as construction industry or laundries can include SSEs; communication with associations of companies or with professional organizations might offer new opportunities. Contracts for a number of companies are more effective and efficient than contracts with a single small company. These contracts may offer also opportunities to develop more appropriate services such as a helpdesk and a databank with frequently asked questions for small-sized enterprises. Other opportunities are the start of a specific website for a branch or occupational group such as the Dutch Healthy Hairdressers website and the website for mental health care professionals. Priority targets can be set after elaborate discussions with employers and employees. Commitment and financial support of insurance companies might be considered.
3. Another approach is to discuss if OHS can operate cheaper and at the same time maybe even better accessible for SSEs. The prevailing OHS model has been developed long ago for large industrial companies, but not for small-sized enterprises that are often engaged in service industry type of work. Issues for discussion might be:
    a. using more Information and Communication Techniques: telephone helpdesk, e-mail, cell phones, websites, electronic lessons, distance learning
    b. using more well trained occupational health nurses and education staff
    c. use the train the trainers principle, e.g. train company health officers in good co-operation with Labour Standards Inspection Offices and Occupational Health Promotion Centers; secondly they can ask professional support from OHS when needed.
4. OHS organizations might invest maybe even more as they do already, in networking such as in co-operation with Occupational Health Promotion Centers (which also are considering more close ties between each other), Regional Occupational Health Centers and Labour Standards Inspection Offices.

5. On the website of the European Agency for Safety and Health at Work several suggestions are presented for small and medium sized companies (SMEs), as practiced in different European countries (see References). This report concludes that for a scheme to be successful, it should
   - Focus on a particular sector or risk
   - Be appropriate: neither too complicated nor too expensive
   - Have the involvement of different partners (employers, employer associations, workers, trade unions) in its planning and implementation
   - Measure its adequacy by assessing the needs before the action; carrying out a systematic evaluation of its effects afterwards
   - Offer support free of charge or at a minimal cost
   - Help to create an OSH prevention culture in SMEs
   - Combine active interventions with practical documentation and tools

International co-operation

It might be worthwhile for MLHW to consider the start of new international initiatives with the explicit aim to foster the quality of occupational health care and services in Japan, in association with initiatives in countries such as Finland and the Netherlands. Such initiatives may include occupational health care participation in international activities already taken by Japanese government in WHO, ILO and APEC collaborations, such as in the control of infectious diseases such as SARS and new threats by influenza.

Conclusions

Japan has the highest health standard in the world. Nevertheless, the working population is facing new problems especially in the field of mental health (karo-shi, suicides, depression), while 'old' problems still exist in certain occupations and branches of industry such as exposure to solvents, asbestos and noise. The accident level is still high and asks for more attention. At the same time, the accent in many workplaces is shifting towards mental health problems and to the demand for more comfortable workplaces including ergonomic measures. More attention is needed to limit the practice of working too many hours and not taking paid vacation days. Lifestyle diseases are still prevalent and ask for comprehensive solutions. The ageing population causes much concern. Employees have to work longer, until 65 years, and companies will be confronted with special challenges related to diminished or other capacities of elderly employees and disabilities caused by chronic diseases. High priority has to be given to the improvement of the working conditions of female employees, both for humanitarian and economic reasons.

Japan OHS system has different organizational forms and offers a variety of quality. Occupational physicians who are members of the Japan Society for Occupational Health can offer a high quality. The large majority of occupational physicians however has had a more limited education and training and is working part-time in occupational health. Other disciplines are occupational health nurses and measurement specialists. For every employee once a year a high quality periodic health examination is organized. In addition special health examinations are arranged related to specified hazards at work. For many workplaces professional risk assessments are completed and recommendations are given to improve the working environment. Nurses and physicians are active in consultations, workplace visits, education and participation in health and safety committees in companies.

Suggestions for improvements in occupational health services include:

To foster the quality of the occupational physicians, nurses and other experts in occupational health by a well developed system of education and certification. Quality of practice can be stimulated through audits by peers, development of evidence-based quality criteria and practice guidelines e.g. for medical examinations and consultations, and spreading evidence-based medicine approaches in occupational health.

To stimulate multi- or interdisciplinary teams in OHS including e.g. ergonomists and psychologists. Multidisciplinary teams can improve quality and are necessary to offer a more widespread range of high quality facilities to companies and workers.

To stimulate occupational mental health programs in occupational health care, e.g. considering the start of a comprehensive multidisciplinary national research and development program in good collaboration with government, industry and labour unions. International contacts are important e.g. using ICOH scientific committees.

To study the evidence base of the health examinations as is practice now, considering a lower frequency and an advanced combination of medical and work-related assessments facilitating the identification of the work-relatedness of health complaints and early signs of problems in working capacity e.g. in elderly employees.

To develop branch or occupation specific workplace assessment schemes and recommendations, to improve quality and effectiveness.

To stimulate OHS organizations to set targets, to use a good evaluation design, to measure process and outcomes, and to add costs in cost-effectiveness evaluations

To invest in more OHS evaluation research, using international contacts to stimulate mutual progress and using assistance of both population and clinical epidemiologists. Economists can add value to cost-effectiveness studies.

To experiment with new, creative, more flexible models for OHS care for small-sized enterprises including using branch wise or regional approaches and contracts, experiments with low budget contracts, focusing on a particular sector or risk, involving different partners, using more ICT like websites and e-mail, using telephone helpdesks and other instruments that are appropriate for SSEs, using nurses and educational experts more frequently, working together more closely with other providers of occupational health and safety.

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資　　料

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労働者 50 人未満事業場の産業保健活動に関する実態調査結果及び提言

浜　民夫*・東　敏昭**

The Report on the Investigation of Actual Conditions Result of Occupational Health Services about the Working Place that the Employed Number of the Laborers is Less than 50

Tamio HAMA, Toshiaki HIGASHI

Abstract

An investigation of actual conditions of occupational health services in the working places with less than 50 workers in Kawasaki city, Yokohama city, Kyoto city, Kitakyushu city, and Fukuoka city. from November to December in 2004.

According to the investigation result, the small scale working places had less occupational health services compared with large scale ones. For the improvement of the condition, it is one of the effective measures to employ or assign an occupational health physician even in the working places with equal to or more than 30 workers.

The support as a administrative system is necessary to enrich occupational health services for workers employed in small scale work places and small scale enterprises by using Insurance system and local OHS resources

Key words：occupational health services ; occupational health physician, small scale enterprises

１．はじめに

我が国の産業発展、経済発展の要素の一つに、親会社あるいは元請企業があって、その“支配”の下に子会社、系列企業、下請企業というような企業群・技術集団が存在しているのは周知の事実である。

この構造は、“上”から“下”に展開する過程で発注金額が縮減していき、“上”から見ると利益を生み出すコスト削減のプロセスであり、“下”から見ると単価が切り下げられ、人件費を切り詰めてでも対応しなければならない、仕事を受注するプロセスである。

この下層部分を担っているのが小零細企業である。平成13年の総務省の「事業所統計調査」によると、民営事業所の 96 %が常用雇用者数が 30 人未満の小零細事業所であり、従業者規模 30 人未満の小零細事業所で働いている常用雇用者は全体の 47 %にも達する。

労働安全衛生法はその第１条において、職場における労働者の安全と健康を確保するとともに、快適な職場環境の形成を促進することを目的とする、とし事業主に対してそのために必要な措置をとること

* 長崎大学環境科学部
**産業医科大学産業生態科学研究所
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を求めている。産業保健活動においても然りであり、企業の規模に関わりなく、法が求める最低基準を遵守し、その雇用する労働者に法定の労働環境を提供しなければならない。

しかしながら、本調査結果によると、小零細企業における産業保健活動は、大企業のそれと比較しても全般的に低調であるし、小零細企業の間でも格差が見られる。

法の下の平等という理念を小零細企業で働く労働者に具現化するためには、小零細事業場に対しても、行政は積極的に法令の履行確保を求めることが必要であるし、一方では、税金あるいは労災保険料を活用し、さらには労災保険の労働福祉事業を積極的に活用して小零細事業場に対する助成措置を図る必要がある。要すれば所要の法令改正も視野に入れることが必要であろう。

2．調査の概要

2-1 調査の目的

本格的な高齢化社会の到来に伴い、生活習慣病の増加やメンタルヘルスケアに対するニーズの増大など、疾病の早期発見と日常的な健康管理の必要性が高まっている。このため産業保健活動の充実に対する期待はこれまで以上に大きくなっている。中でも、小規模事業場において、健康診断をはじめ、産業医や衛生管理者の選任など、職場の健康管理推進体制全般を含む産業保健活動の充実が求められている。

このことから、産業保健活動に対する小規模事業場のニーズをより詳細に探っていくことが必要である。そこで、今後の産業保健活動の充実を図ることを目的として、小規模事業場の産業保健活動に対する事業者および労働者のニーズを把握するためにアンケート調査を実施した。

そして、調査結果をベースにして今後の課題などについてとりまとめたものである。

2-2 調査方法

労働者50人未満の小規模事業場を対象にして「産業保健活動に関するニーズ調査」（アンケート調査）を実施した。

①対象者は、事業主と労働者個人（１事業場につき２名、事務系１名、技能系１名）とした。

②対象地域は、横浜市、川崎市、京都市、福岡市、北九州市の５都市とした。

③調査数は、各都市に立地する小規模事業場500社ずつ（労働者個人は1,000人）、合計2,500社（5,000人）とした。

④調査時期は、平成15年11月～12月に実施した。

⑤郵送による自計方式とした。ただし、事業主宛てに調査票は発送したが、事業主用返信封筒、労働者個人用返信封筒を別々に必要部数同封して行った。

⑥有効回収数（率）は、事業主453人（回収率18.1％）、労働者個人728人（同14.6％）であった。

都　市	事業者（数）	労働者（人）
①横浜市	76（15.2％）	113（11.3％）
②川崎市	60（12.0％）	92（ 9.2％）
③京都市	96（19.2％）	146（14.6％）
④福岡市	95（19.0％）	163（16.3％）
⑤北九州市	126（25.2％）	214（21.4％）
合　計	453（18.1％）	728（14.6％）

2-3 回答事業場及び回答労働者のプロフィル

（回答事業場のプロフィル）

①　事業場の所在地

No.	カテゴリー名	回答数	構成比
1	横浜市	76	16.8
2	川崎市	60	13.2
3	京都市	96	21.2
4	福岡市	95	21.0
5	北九州市	126	27.8
	回答数	453	100.0

②　資本関係等

No.	カテゴリー名	回答数	構成比
1	単独独立型企業	341	75.3
2	子会社	26	5.7
3	系列会社	25	5.5
4	請負会社	43	9.5
5	構内協力企業	7	1.5
6	構外協力企業	3	0.7
7	その他	3	0.7
	無回答	5	1.1
	回答数	453	100.0

③ 事業場の労働者の平均年齢（歳）

No.	カテゴリー名	回答数	構成比
1	24歳以下	1	0.2
2	25歳～29歳	14	3.1
3	30歳～34歳	31	6.8
4	35歳～39歳	84	18.5
5	40歳～44歳	124	27.4
6	45歳～49歳	105	23.2
7	50歳～54歳	66	14.6
8	55歳以上	24	5.3
	無回答	4	0.9
	回答数	453	100.0

事業場平均年齢　42.9歳

④ 平均労働者数（人）

男女計		14.9
	男性	11.0
	女性	3.9

⑤ 業種

No.	カテゴリー名	回答数	構成比
1	農・林・水産・鉱業	0	0.0
2	建設業	150	33.0
3	製造業	81	17.9
4	電気・ガス・熱供給業・水道業	9	2.0
5	運輸・通信業	20	4.4
6	卸売・小売業	114	25.2
7	金融・保険業	0	0.0
8	不動産業	11	2.4
9	サービス業・その他	67	14.8
	無回答	1	0.2
	回答数	453	100.0

（回答労働者のプロフィル）

① 勤務先事業場の所在地域別労働者数（人）

No.	カテゴリー名	回答数	構成比
1	横浜市	113	15.5
2	川崎市	92	12.6
3	京都市	146	20.1
4	福岡市	163	22.4
5	北九州市	214	29.4
	回答数	728	100.0

② 職種（人）

No.	カテゴリー名	回答数	構成比
1	生産・技能系	143	19.6
2	事務系	353	48.5
3	営業系	123	16.9
4	販売・サービス系	63	8.7
5	その他	34	4.7
	無記入	12	1.6
	回答数	728	100.0

③ 年齢分布（人）

No.	カテゴリー名	回答数	構成比
1	24歳以下	17	2.3
2	25歳～29歳	76	10.4
3	30歳～34歳	83	11.4
4	35歳～39歳	69	9.5
5	40歳～44歳	96	13.2
6	45歳～49歳	81	11.1
7	50歳～54歳	125	17.2
8	55歳以上	179	24.6
	無記入	2	0.3
	回答数	728	100.0

回答労働者の平均年齢　44.2歳

④ 性別（人）

No.	カテゴリー名	回答数	構成比
1	男性	427	58.7
2	女性	294	40.4
	無記入	7	1.0
	回答数	728	100.0

3．アンケート調査結果の概要

3-1 産業保健活動の現状について

3-1-1 気がかりなこと

労働者の健康管理を考えるうえで気がかりなことは、事業主の回答では、生活習慣病といわれている「成人病問題」が47.7％、「腰痛問題」が40.0％、「ストレス問題」が29.8％で、これらが上位から3番に挙げられた。これに対し、労働者個人の回答をみると、「ストレス問題」が38.5％とトップにきており、以下、「生活習慣病」36.0％、「腰痛問題」35.0％、「眼精疲労問題」33.8％となっている。