Mental Disorders among Today's Labor Force and Preventive Measures

Yujiro Hara
Ds's Mental Health Labo Inc.

In recent years, mental disorders among Japan's labor force have emerged as a major issue, with statistics showing that nearly 60% of workers experience stress on the job, and approximately one million have developed mood disorders as a result. Dealing with workers suffering from mental disorders has become a demanding task for employers, and preventive measures are being sought. The Guidelines for Maintaining and Improving Workers' Mental Health released by the Ministry of Health, Labour and Welfare (MHLW) in 2006 calls for four types of mental health care (self-care, care by management and supervisors, care by industrial health staff, etc. placed at offices, and care by external resources), and as primary preventive measures, self-care, care by management and supervisors, and improvement of work environments are being examined. Meanwhile, in providing employees with support for reinstatement after mental health-related absences, pre-reinstatement rehabilitation programs (known in Japan as "rework programs") are drawing much attention as a means of bridging gaps in perception between mental health care professionals and employers. Moving forward, to implement more effective preventive measures, industrial health specialists, human resources divisions and management must share a common vision for mental disorder countermeasures incorporating the concept of "work engagement," and supplement and cooperate with one another's efforts to develop these countermeasures.

I. Introduction: Background to the Emergence of Workplace Mental Health as a Key Issue in Japan

Currently, mental disorders are a major workplace issue in Japan. A 2010 survey of businesses' mental health-related policies by the Institute of Labour Administration indicates that 63.5% of businesses have had employees who were absent for one month or more for mental health reasons, and the figure grows to 97.5% for companies with 1,000 or more employees. These numbers have risen since the previous survey in 2008. In terms of trends over the past three years, 44.4% of companies marked an increase in the number of mental disorder sufferers during this period, and while this represents a drop from the previous (2008) survey's figure of 55.2%, it is still the most common response for this survey item. With regard to civil servants, 2001 and 2006 results of the Survey on Long-Term Leaves of Absence due to Illness among National Public Employees conducted every five years by the National Personnel Authority showed that the most common cause of long-term (one month or longer) absences due to illness was "mental or behavioral disorders," accounting for 63.0% of long-term absences due to illness. The percentage of civil servants taking long-term absence due to illness in the later survey was 1.28%, roughly triple the figure of

Table 1. Sources of Significant Anxiety, Worry and Stress Felt at Work or in Professional Life

(Unit: %)

Item	All respondents	Male	Female
Work content	34.8	36.3	32.5
Workload	30.6	30.3	31.1
Aptitude for duties	22.5	21.2	24.5
Interpersonal relations	38.4	30.4	50.5
Promotion and salary increases	21.2	24.9	15.6
Reassignment	8.1	8.7	7.1
Job security	12.8	12.2	13.7
Employer's future business outlook	22.7	29.1	12.9
Post-retirement employment and living conditions	21.2	24.1	16.7
Other	9.3	9.4	9.3

Source: MHLW, *Survey on State of Employees' Health (2007).*
Note: Multiple responses (up to 3) possible.

0.46% in 2001.

According to the Survey on State of Employees' Health performed by the MHLW every five years since 1982, the percentage of workers experiencing stress in their professional lives is constantly rising, with 58% reporting some kind of stress in latest survey (2006). The breakdown of sources of stress (see Table 1) indicates that the top three factors for both men and women are "interpersonal relations in the workplace," "labor conditions" and "workload." Other increasingly common sources of stress are "employer's future business outlook," "job security," "promotions and salary increases," and "anxiety about post-retirement living conditions." Structural changes in society are thought to lie behind these trends. In the past, seniority-based promotion was taken for granted in Japanese companies, and most workers once hired could count on their employers to look after them as they gradually climbed the corporate ladder until retirement. Also, the 2007 White Paper on the National Lifestyle describes weaker ties with colleagues among younger workers in particular, increased workplace automation causing an increase in solitary work, changes in the ways employees relate to the workplace, and regular employees in their prime working years working disproportionately long hours, all of which seem likely to contribute to stress. In addition, Japan's unemployment rate has remained at a high level (4.2% in a January 2013 survey by the Ministry of Internal Affairs and Communications) since the global financial crisis of 2008. Businesses have come to prioritize performance and business results above all, and declining profits have led to layoffs euphemistically known as "restructuring." Workers can no longer count on lifetime employment at a single company, and in this new era must assume sole responsibility for keeping themselves employed.

Another factor is the stunning speed of progress in information technology, such as smartphones that allow employees to check e-mail or documents even when out of the of-

fice, and give them the same access to information they would have in Japan even when overseas. While this is certainly convenient, it means that even on days off people are often exposed to work-related information, and the boundary between work and leisure time has become blurred. Also, a 2008 MHLW white paper describes an ongoing rise in the number of households where both husband and wife work. In 1980, there were fewer than six such households for every ten households with a working husband and unemployed wife, but the number of households where both work surpassed the number of households with a stay-at-home spouse in 1997 and has continued to rise. In the past, more traditional gender roles meant that men and women to some extent took responsibility solely for either earning income or for housework and child care, but more and more people today are taking responsibility for both. In other words, it is no longer sufficient for workers to simply complete the tasks they are assigned—they must also balance work and other aspects of life on their own initiative. All of these changes in Japanese society are placing an increasing burden on workers and appear to be acting as sources of stress.

In many cases stress results in health problems, notably mental disorders. This includes a clear rise in the number of people suffering from mood disorders, which according to an MHLW Patient Survey conducted every three years came to approximately one million in 2008. Also, a World Mental Health Japan Survey of people aged 20 and older, performed in 11 regions, found that over the preceding 12 months 8.8% of regional residents had experienced some form of mood, anxiety or substance abuse disorder (with depression alone afflicting 2.9%) (Kawakami et al. 2005). The same survey also found that of those who experienced depression in the previous 12 months, 14% had consulted a psychiatrist, 14% had visited a psychologist, and 9% had seen a general practitioner, but over 70% had not sought any medical treatment (Naganuma et al. 2006). This data suggests that not only have a large number of workers been forced to take leaves of absence for mental health reasons, there are also a great many experiencing latent stress, many of whom suffer from some form of mental disorder without seeking diagnosis and treatment. The number of work injury claims and settlements stemming from mental disorders is growing, with the 1,272 claims filed in 2011 topping the prior annual record for the third consecutive year. The 325 claims resulting in monetary compensation also represented a new record (MHLW, 2011 Survey on Status of Workers' Compensation regarding Brain and Heart Disorders and Mental Disorders). Furthermore, the National Police Agency reports that the suicide rate in Japan is second only to Russia among developed nations. The number of suicides skyrocketed from 24,391 in 1997 to 32,863 in 1998, and since then the annual number of suicides has largely stayed above 30,000. It fell to 27,766 in 2012, but the reasons for this are not clear. In fiscal 2011 approximately 30% of people who committed suicide were employed, and approximately 2,500 are thought to have killed themselves for work-related reasons. In some cases excessively long work hours appeared to have driven people to suicide (a phenomenon known as *karo jisatsu* or suicide due to overwork). The MHLW estimates Japan's annual economic losses due to suicide and depression at approximately ¥2.7 trillion.

Meanwhile, according to the World Health Organization (WHO), unipolar depression ranked third in the 2004 Global Burden of Disease (GBD) Study of mortality and disability from major diseases, and is expected to rank first by 2030. All of these findings and perspectives indicate that reducing the suicide rate and preventing mental disorders such as depression is not merely a concern for individual employers, but a pressing issue of national and international dimensions. This is reflected by various measures taken in Japan, such as enactment of the Basic Act on Suicide Prevention in 2006, and recognition of mental disorders as the fifth "disease requiring widespread and ongoing provision of medical treatment" in Japan's fiscal 2013 Health Care Plan, added to the existing four (cancer, strokes, heart attacks and diabetes).

II. The Four Types of Mental Health Care and Preventive Measures

Japanese society and the business community have been taking a wide range of preventive medical measures in response to the above-described situation, and there are calls for much more to be done. In Japan preventive mental health care became possible in the 1950s due to the emergence of psychotropic drugs, the recognition of mental disorders as treatable conditions, and the accompanying clarification of the mechanisms of mental illness. However, at this stage the focus was primarily on how to treat mental disorders, and such preventive medicine as existed could be classified as tertiary prevention (reducing negative impact of existing disease by restoring function and reducing complications). From there the field progressed to secondary prevention (diagnosing and treating existing disease in early stages before it progresses significantly), and today there is a growing focus on primary prevention (preventing occurrence of disease before it emerges.)

When taking preventive measures, businesses are directed to follow the Guidelines for Maintaining and Improving Workers' Mental Health (MHLW, 2006, hereinafter referred to as the "Guidelines.") In practical terms, the Guidelines recommend four types of mental health care. Businesses adopting preventive measures are likely to refer to the Guidelines, and they are clearly organized so as to provide a framework for businesses to formulate measures. For this reason I will summarize the specifics of the Guidelines and outline the primary, secondary and tertiary preventive measures being taken based on them. The four types of mental health care are self-care, care by management and supervisors, care by industrial health staff, etc. placed at offices, and care by external resources (see Figure 1). The following is a brief overview of the types of care.

• Self-Care

According to the Guidelines, self-care is the foundation for maintenance of mental health. To promote self-care, employers should provide workers with training or information to enable them to understand mental health and reactions to stressors in general as well as correctly assess their own stress level and mental state. The goal is for employees to

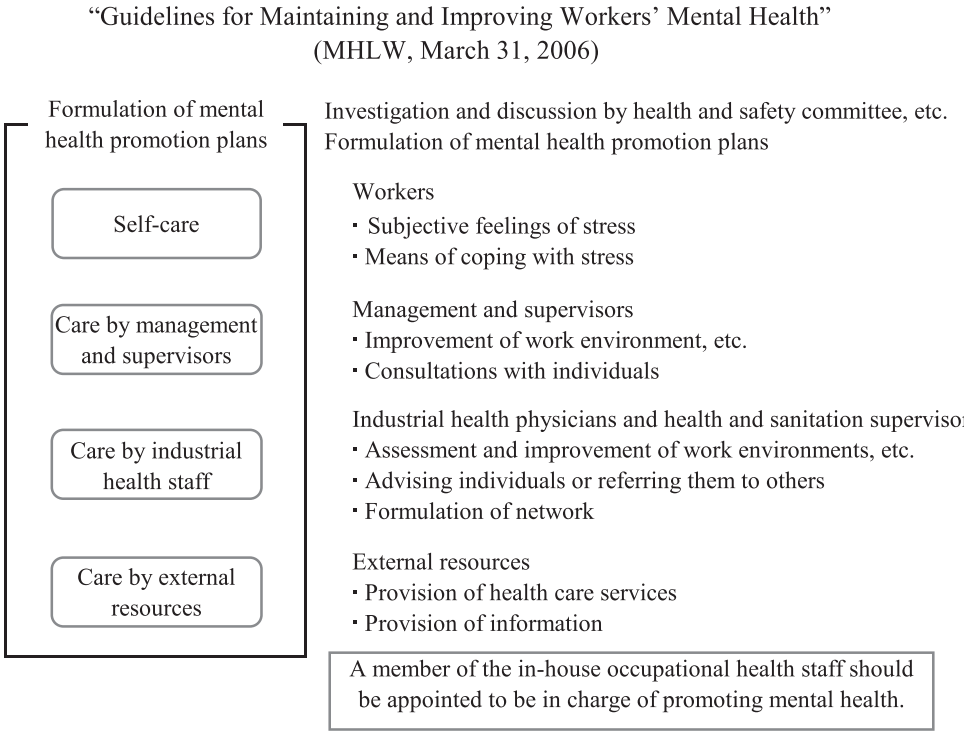


Figure 1. The Four Types of Mental Health Care

recognize their own stress levels, acquire knowledge and techniques for dealing with it, and put them into practice. Naturally, these measures are targeted not only at rank-and-file employees but also at supervisors and management. If workers are able to notice when stress is mounting, and take steps to alleviate it, they will be able to prevent mental disorders before they occur, making this an example of primary prevention. In some cases symptoms may already have appeared, but self-care can make sufferers notice and address them, which would qualify as secondary or tertiary prevention.

• Care by Management and Supervisors

Supervisors and managers are in a position to monitor subordinates on a day-to-day basis. They also play an important role in that they are aware of specific factors causing stress in the workplace, and are capable of advising workers on various issues. Supervisors and management have an obligation to monitor the work environment, make necessary improvements, and take initial countermeasures if approached by a subordinate. To enable them to fulfill this obligation, businesses should provide adequate training and information on mental health care.

• Care by Industrial Health Staff, etc. Placed at Offices

The category of industrial health staff, etc. placed at offices includes various types of health care professionals such as industrial health physicians, health and sanitation supervisors, public health nurses, personnel and labor administrators, and psychiatrists. As mental health care specialists, the in-house industrial health staff plays a central role in workplace mental health care, advising both workers and management, formulating and implementing mental health care plans, and building and facilitating networks with external resources. For self-care and care by management and supervisors to be effective, there must be a system in place in which workers and management can easily consult someone when they notice problems affecting themselves or subordinates. Businesses should appoint a member of the in-house industrial health staff to be in charge of promoting mental health, and these staff members should employ the insights and suggestions of experts to implement measures effectively.

• Care by External Resources

Support from various external resources possessing specialized expertise, such as medical institutions and corporations that provide mental health care services, is effective for promotion of mental health in the workplace. As a basic rule the in-house industrial health staff is to act as a liaison and establish relationships with medical institutions, etc. so as to build up a reliable network of external resources that can be consulted as needed.

As the above illustrates, the guidelines for the four types of mental health care call on businesses to play a central role in mental health care, with particular importance assigned to self-care and care by management and supervisors. In-house industrial health staff are to take charge of formulating and implementing preventive measures, with supplementary assistance provided by external institutions and resources. The following is an outline of how the four types of mental health care should be applied from a preventive medicine standpoint.

1. Self-Care as Primary Prevention

Businesses should promote self-care in the workplace, as a primary preventive measure, by offering training programs for workers. What kind of training should be provided, based on which specific principles? Here I will relate several valuable insights gleaned from randomized and non-randomized controlled trials conducted by Shimazu (2009) both in Japan and overseas.

- In terms of training content, meta-analysis by Van der Klink et al. (2001) and Richardson and Rothstein (2008) showed that methods based on a cognitive-behavioral approach or incorporating relaxation techniques had a greater intervention effect than other methods. A meta-analysis of the latter in particular found that programs employing the cognitive-behavioral approach used alone had the greatest effect. Meanwhile, many other programs adopted a cogni-

tive-behavioral therapy approach or cognitive-behavioral approach combined with relaxation techniques. The goal of many programs employing a cognitive-behavioral approach was to impart basic information about stress management and various techniques to cope with stress. These include problem solving, cognitive restructuring, and assertion, but no studies have directly compared the intervention effects of these techniques. The relaxation techniques many programs sought to explain and teach to trainees included muscle relaxation, autogenic training, and breathing techniques, but again there have been no studies directly comparing the relative effectiveness of the techniques. There has also been little research directly comparing the effects of a cognitive-behavioral approach and a relaxation approach, and these effects vary widely in any case, meaning it is not possible at this stage to say which approach is more effective.

- With regard to the structuring of training programs, for the most part the persons providing training were clinical psychologists or stress management specialists, with no evident discrepancy in effectiveness depending on whether clinical psychologists were in-house or external. There was great variation in the number of sessions conducted. For programs with multiple sessions, a study has been done comparing the effectiveness of programs with booster sessions and those without (Rowe 1999). It found that for the group receiving booster sessions five, eleven and seventeen months after the program ended, the training's effects lasted two years, whereas they only lasted six months for those not receiving booster sessions. A large number of programs entailing two or more sessions achieved the primary objective of alleviating psychological stress reactions. Among the 40 studies in which this objective was achieved, the average length of time per session was approximately 100 minutes.

Integrating these insights, we arrive at the conclusion that training programs ought to offer basic information on stress management, and ought to incorporate a cognitive-behavioral approach and relaxation techniques. Programs entailing multiple sessions over multiple days, in which each session lasts less than two hours, have a longer-lasting effect.

Either in-house or external specialists may lead the training, to comparable effect, but having in-house industrial health staff in charge offers advantages in that employees will be able to consult these same personnel afterward on a day-to-day basis. This makes it easy for trainees to envision, in concrete terms, seeking assistance and advice, and can facilitate secondary and tertiary prevention later on. For this reason in-house industrial health staff are thought to be ideal. For reference, Figure 2 and Table 2 show the contents and guidelines of self-care training conducted by the author.

Figure 2. Example of Contents of Self-Care Training

Table 2. Contents of Self-Care as Stipulated by the Guidelines for Maintaining and Improving Workers' Mental Health

1. Businesses' in-house policies on mental health care
2. Basic facts about stress and mental health care
3. The importance of self-care and appropriate attitudes toward mental health issues
4. Recognizing stress
5. Stress prevention, alleviation and coping methods
6. Efficacy of voluntary consultations
7. Information on persons to consult within organization and about external resources

2. Care by Management and Supervisors as Primary Prevention

Specific measures relating to "care by management and supervisors" fall roughly into two categories. One is training for management and supervisors, and the other is improvement of the workplace environment. With regard to the former, according to reviews by Tsutsumi et al. (2009) and others, the outcomes of multiple controlled trials showed that in the short term at least, single-session group training for managers and supervisors had a positive effect on the mental health condition, insomnia symptoms, and performance of subordinates and other workers (Greenberg 2006; Kawashima et al. 1996; Kawakami et al. 1997; Kawakami et al. 2005, 2006; Takao et al. 2006; Theorell et al. 2001; Tsutsumi et al 2005). Positive impact on the mental health of subordinates and entire organizations was noted particularly when training for managers and supervisors covered the items (see Table 3) stipulated by the Guidelines (Kawashima et al. 1996; Kawakami et al. 1997; Kawakami et al. 2005, 2006; Takao et al. 2006; Tsutsumi et al. 2005). Boosting levels of knowledge and motivating positive behavioral shifts in supervisors and managers are thought to be

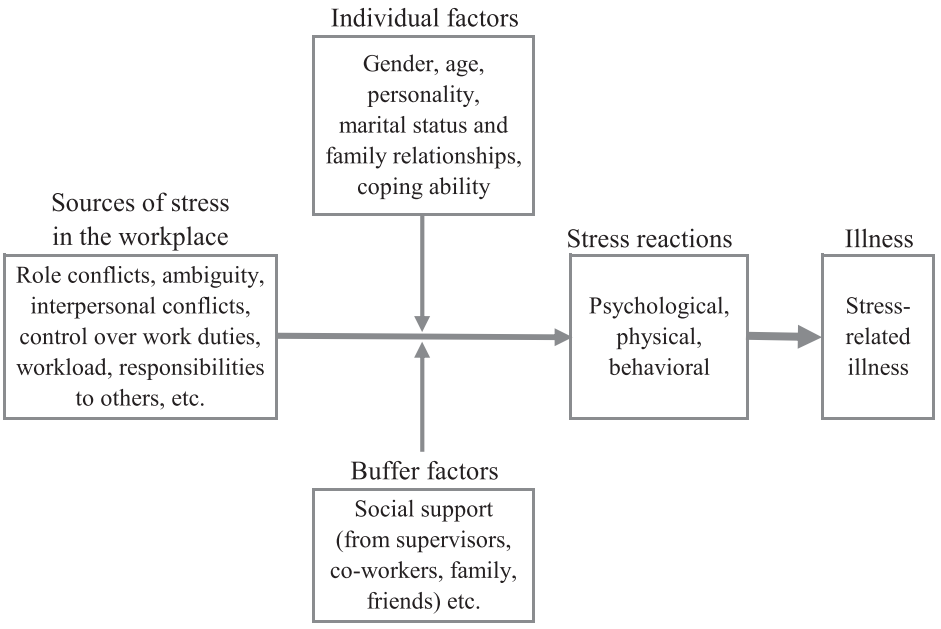
Table 3. Contents of Care by Management and Supervisors as Stipulated by the Guidelines for Maintaining and Improving Workers' Mental Health

1. Businesses' in-house policies on mental health care
2. The significance of mental health care in the workplace
3. Basic facts about stress and mental health care
4. The role of management and supervisors, and appropriate attitudes toward health issues
5. Methods for assessment and improvement of work environments, etc.
6. Responding to consultations from workers (how to listen, how to provide information and advice, etc.)
7. Providing support for reinstatement of workers after leaves of absence for mental health reasons
8. Coordinating directly with in-house industrial health staff and indirectly with external resources
9. Self-care procedures
10. Information on persons to consult within organization and about external resources
11. Protection of workers' personal information including medical data

mechanisms producing positive effects in this training (Tsutsumi et al. 2005) In terms of the frequency and duration of training, findings show that the effects of training are no longer clearly evident after six months (Nishiuchi et al. 2007). In terms of content, training should promote understanding of occupational stress and stress models. This understanding is to be applied in day-to-day management of subordinates, and to ensure a firm grasp of key points when improving workplace environments (to be discussed in detail later). The following three stress models are widely recognized:

• NIOSH Occupational Stress Model

The US National Institute for Occupational Safety and Health (NIOSH) reviewed occupational stress research to prepare this model of occupational stress (Hurrell and McLaney 1988) (See Figure 3). In simple terms, the model hypothesizes that job-related stressors provoke acute stress reactions, and if stressors are maintained for long periods of time, they lead to mental disorders. However, it is clear that reactions to stress vary, as people experience stimuli in different ways and enjoy different levels of support from those around them. For this reason the model postulates moderating variables to explain people's differing reactions to stressors that are similar in type and degree. These moderating variables include factors related to individual character and private life, and buffer factors. The model provides a cross-section that is useful for understanding stressors and development of disorders. That is to say, it illustrates the fact that everyone has his or her own unique circumstances and does not necessarily come to suffer from a disorder simply due to the quantity or quality of work engaged in, while on the other hand, everyone may be susceptible to disorders under certain circumstances, regardless of his or her skills and abilities. In other words, the model clearly conveys the concept that managers should address each person as



Source: Adapted from the NIOSH Occupational Stress Model (Hurrell and McLaney 1988).

Figure 3. Occupational Stress Models

a whole, unique individual when dealing with subordinates. Also, the model shows that the support of supervisors and co-workers acts as a buffer factor to mitigate stress, and helps managerial personnel understand the role they play.

• Demand-Control Model of Job Stress

In this model postulated by Karasec (1979), psychological stressors in the workplace are functions of how demanding a person's job is and how much control they have over it. Job "demands" include amount of work, time constraints, degree of concentration required, and performance of work under pressure, while "control" includes latitude to make decisions, skill discretion (degree to which the job involves a range of abilities and tasks), and other factors. Crossing high or low demand with high or low control produces four groups: (i) High Strain (high levels of demand but little latitude for control), (ii) Active (highly demanding jobs with a high degree of control), (iii) Low Strain (low levels of demand with high levels of latitude), and (iv) Passive (low levels of both demand and control). The model hypothesizes that the High Strain group is most vulnerable to mental disorders.

Johnson and Hall (1988) added social support as a factor in their Job Demands-Control-Support model. In this model the group most susceptible to adverse stress reactions is the group with high levels of demand, low levels of control, and little social support from co-workers, etc. Regardless of which model is employed, it is evident that

supervisors must not only gauge their subordinates' job demands and prevent overly long work hours or excessive volume of work, but also allocate authority and latitude commensurate with each employee's level of demand (Kawakami 2002).

• Effort-Reward Imbalance Model

This model postulated by Siegrist (1996) synthesizes behavioral economics and stress theory. It hypothesizes that an imbalance between effort expended on the job and the resulting reward leads to high levels of tension in the sympathetic nervous system and provokes stress reactions (Tsutsumi 1999). Here "effort" includes levels of job demand and energy expended, and "reward" includes not only monetary compensation but also psychological rewards and career advancement. These are out of balance when, for example, people perform highly demanding jobs for low pay, or expend a great deal of energy without being properly appreciated nor praised. In addition to the perspectives of the demand-control model, management must keep the balance of effort and reward in mind when supervising personnel.

To summarize the above: while much remains unclear due to the small number of studies that have been performed, what can currently be said about training for supervisors and managers is that it should follow the MHLW Guidelines, that it should heighten trainees' levels of understanding (including of the contents of occupational stress models) and bring about positive changes in their behavior patterns as a result, and that it should be conducted at least twice a year or so.

The next topic is improvement of work environments. This is not necessarily the sole responsibility of managerial personnel, but as they are in a position to monitor the workplace day-to-day and make improvements as they see fit, it is certainly possible and advisable for them to do so as one element of "care by management and supervisors," taking the above-described occupational stress models into account. Details will be outlined in the next section.

3. Improvement of Work Environments: A Powerful Tool for Primary Prevention

The Guidelines place strong emphasis on improvement of work environments as a means of promoting mental health, stating that "improvement of work environments is an effective means of maintaining and improving workers' mental health, and encompasses improvement of the physical work environment, work procedures, equipment and facilities aimed at relieving workers' physical and mental fatigue, other equipment and facilities that are necessary in the workplace, working hours, quantity and quality of tasks, interpersonal relations in the workplace including sexual and other harassment, organizational, human resources and labor administration systems, corporate culture and climate, and other factors that impact the quality of the work experience. Improvements to workplace layout, procedures, communication and organizational structure are among the steps that can be taken. For this reason employers should take active steps to implement such improvements so as to

prevent mental disorders before they occur." The effectiveness of such improvements has been reported internationally, for instance in a report by the ILO (International Labor Organization) compiling successful case studies of workplace stress countermeasures from a total of 19 work sites in nine countries. The report notes that many countermeasures entailed improvement of work environments, and that while the outcomes of measures geared toward individuals were temporary and limited, improvement of work environments was noticeably more effective (Karasek 1992). Meanwhile, in a review of 18 studies by Egan et al. (2007), it was reported that 12 of these studies established a control group, and of these, eight studies found positive changes in health indicators correlated with work environment improvements.

In Japan, tools for work environment improvements including the Mental Health Action Checklist (MHACL) (Yoshikawa et al. 2007) have been developed and used for workplace intervention studies (Kobayashi et al. 2008; Tsutsumi et al. 2009). In an intervention study by Kobayashi et al. (2008), improvement of work environments carried out with worker participation produced positive results among white-collar women in terms of command of technology, support from supervisors and co-workers, physical complaints, and job satisfaction. These improvements were particularly dramatic in workplaces where 50% or more of employees participated in making changes to the workplace, and there appeared to be a direct correlation between degree of participation and effectiveness. Meanwhile, a randomized controlled trial by Tsutsumi et al. (2009) found that initiatives to improve work environments employing the MHACL resulted in an unchanged mental state for the intervention group, while the mental health of the control group (as measured by a General Health Questionnaire) declined (this is ascribed to changes in the content of work tasks). The intervention group reported a subjective improvement in performance as well.

As described above, efforts to improve work environments have been lauded as effective means of primary prevention both in Japan and overseas. The following points are key: "work contents and procedures," "workplace organization" and "physical and chemical environment of the workplace" (Kawakami 2002). The phrase "work environment" may sound like it merely refers to lighting, positioning of desks and so forth, but it is much broader and also includes interpersonal relations and organizational structure, as taken into account by the MHACL. The following is an outline of the specific steps taken when implementing work environment improvements using the MHACL adapted from Working Group on preparation of Hints for Improving Work Environments (Action Checklist) (2005). All steps are to be implemented using the PDCA (Plan, Do, Check, Act) cycle.

(1) Build Consensus on Measures

As a stress countermeasure, pursue improvement of work environments by informing managers and supervisors of stress survey results, internal and external guidelines, and innovative efforts by progressive companies and work sites. Training for management and supervisors engaged in providing mental health care should be emphasized, and prepara-

tions made and consensus built to boost the momentum of work environment improvements. Consensus on these improvements should be built as a stress countermeasure, by obtaining the understanding of all managers up to the top levels, and publicizing improvements as part of health and sanitation policies or in-house mental health care policies.

(2) Participation and Publicization

Gather workplace information and topics with the goal of effectively implementing improvements to work environments, and make preparations for implementation. First of all, make a list of case studies of workplace stress countermeasures, and obtain information from management, supervisors and employees on measures that are already being pursued. Even if they are not directly aimed at combating stress, it is important to note improvements that are already in place or can easily be implemented, such as prevention of second-hand smoke, elimination of excessive overtime, or changes to office layout. Also, gather information and opinions from management and supervisors and workers about stress factors in the workplace. Make preparations for discussions on improvement of work environment during work hours as a part of workplace duties, notify workers, and encourage participation.

(3) Discussions and Proposals regarding Improvements

Provide a forum for group discussions employing the MHACL (including management and supervisors, workers, labor and human resources administrators, industrial health staff, etc.) and for presentation of the results of these discussions. The discussions should cover case examples of measures and improvements that contribute to stress alleviation, making reference to survey results and positive case studies from the workplace itself. The outcomes of discussions should be recorded in documents and saved as references for countermeasure implementation plans or risk assessment results.

(4) Implement and Assess Measures

Management, supervisors and health and sanitation staff compile the results of discussions (ideas for workplace improvements) for each division, and decide on concrete plans for implementation. Formulate follow-up plans to be put into effect by all stakeholders together. Assess the status of improvement efforts at regular intervals, such as quarterly or yearly, and conduct further stress surveys, applying the results to the next year's action plans.

When putting these measures into effect, there are several points to keep in mind, such as: specifying a particular individual as the target of measures runs the risk of being tantamount to an attack on that individual, so instead gear ideas toward general solutions; do not attempt to make radical changes, instead accumulate a series of gradual changes; and to track progress, adopt short-term indicators such as participants' satisfaction levels and progress of specific improvement measures as well as long-term indicators such as health,

as it takes a long time to see tangible change in such indicators and it may appear the measures are having no effect. It goes without saying that if stress prevention measures themselves are causing stress, the entire exercise is self-defeating, so it is vital to build sufficient consensus, set productive goals, and set indicators that can help maintain motivation among participants.

A collection of hints for improving work environments and manual for using the MHACL are available for download (in Japanese), along with further detailed information: http://mental.m.u-tokyo.ac.jp/jstress/ACL/.

4. Tertiary Prevention and Care by External Resources

In-house industrial health staff members with specialized expertise play the roles of instructors and coordinators in the implementation of the various preventive measures discussed thus far. External resources supplement these efforts, but where external resources play a central role is in the field of tertiary prevention. This means not only treatment of disorders but also rehabilitation programs for employees returning to work after leaves of absence, which have gained increasing attention in recent years. Here, "rehabilitation programs" refers to programs for employees who become unable to work and take leaves of absence due to depression or other mood disorders (known in Japan as "rework programs"). These programs are defined as having three primary goals: (i) Recovery from illness and stabilization of condition, (ii) Assisting employees with preparation to return to work, and (iii) Improving self-care skills so as to prevent reoccurrence of symptoms (Arima 2010). To achieve these goals, rehabilitation programs should incorporate the following four elements: (i) A fixed location that participants can commute to as practice for commuting to work once they are reinstated, (ii) Schedules and frameworks that exert fairly strict control over participants spatially and temporally, and (iii) Work programs with some sort of quota imposed, and (iv) Psychosocial training programs that foster self-care aimed at preventing a reoccurrence of symptoms (Arima 2010). Currently rehabilitation programs are gaining prevalence in Japan, with both public and private institutions offering them and the Depression Rework Research Association established in 2008 to promote them.

Growing interest in these programs springs in part from discrepancies in perception between employers and health care professionals. Psychiatric care differs from other medical fields in that treatment is generally not performed on the basis of hard numerical data, and often the subjective complaints of the patient are the primary grounds for determining how care will proceed. Simply put, if the patient says he or she is "cured," then the patient is considered cured unless his or her behavior or the opinions of family members, etc. make a strong case to the contrary. For this reason many workers on leave of absence are diagnosed as being ready for reinstatement, but upon returning to work their disorders reemerge and they soon take another leave of absence. I myself have had many such experiences. According to a survey of 846 Japanese psychiatrists and psychologists (Kashiwagi et al. 2005), a major criterion for diagnosing a subject as ready for reinstatement is "the primary

physician's subjective judgment" (cited by 66.2% of respondents), and the primary physician's judgment in the majority of cases (85.8%) leans in favor of the patient. The same survey found that while the vast majority of primary physicians (96.2%) viewed "remission status" of a disorder as a prerequisite for reinstatement, most employers (74.3%) wanted disorders "fully cured" before employees return to work (Kashiwagi et al. 2005). Rehabilitation programs are seen as a support system for social reemergence, which helps bridge this gap in perceptions (Arima and Akiyama 2012). Oki and Igarashi (2012) have reported on the effectiveness of rehabilitation programs, and they are widely seen as an effective means of facilitating reinstatement when employed as an element of "mental health care by external resources" (tertiary prevention).

III. Current Status of Companies' In-House Measures

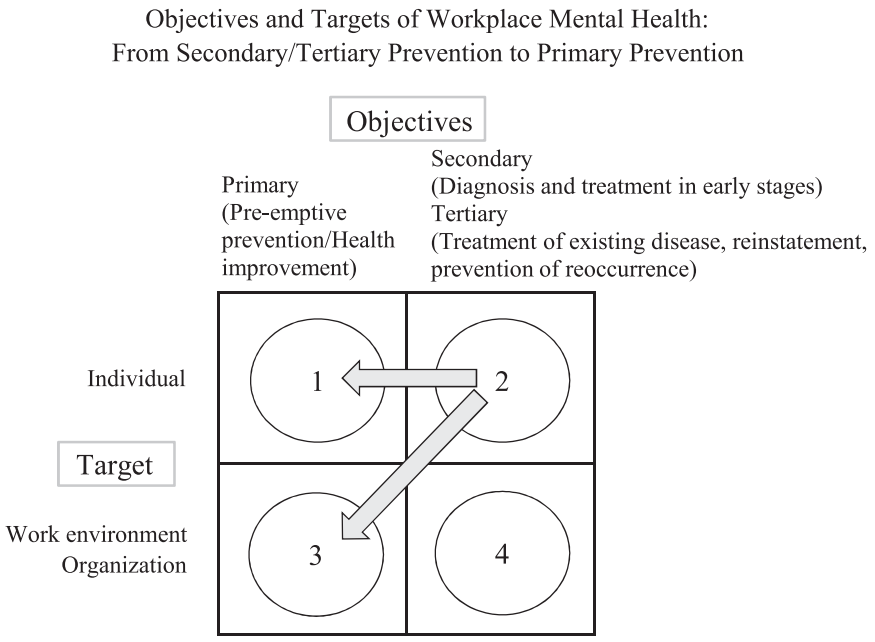
As we have seen, there has been a fair volume of research on the relative effectiveness of various mental disorder prevention measures, and the picture is becoming clearer. What kinds of measures, however, are Japanese companies actually implementing? The 2007 Survey on State of Employees' Health found that only 33.6% of businesses were taking some kind of measures to promote mental health, but the figure had risen to 50.4% in a 2010 survey of mental health measures in the workplace (Japan Institute for Labour Policy and Training 2011). In the specific areas outlined above (training for self-care, training for care by management and supervisors, and improvement of work environments), the percentage of businesses taking some measures went from 11%→21%, 17%→25%, and 7%→7% respectively over the 2007 to 2010 period. While this represents a rise in prevalence in most areas, levels remain low overall. Major reasons for not adopting measures in these areas were "lack of perceived necessity," "not knowing what sort of steps should be taken," and "lack of human resources specializing in these areas." On the other hand, over 70% of businesses surveyed perceive a need to increase emphasis on mental health care, with 55.2% responding that it is "more or less necessary to increase emphasis" and 15.0% that it is "absolutely necessary" (Japan Institute for Labour Policy and Training 2011).

These results indicate that while there is currently insufficient recognition among businesses of the importance and necessity of preventive measures, there is nonetheless a strong perception that such measures will become necessary in the future. Many employers appear to be struggling with the issue, hoping to implement measures soon or in the future, but lacking specialist staff or lacking the information necessary to know how to proceed. To look on the positive side, however, the findings suggest that with deployment of in-house staff well versed in occupational health, communication of the importance of prevention, and formulation and implementation of specific initiatives, preventive measures can be advanced effectively.

IV. Outlook for the Future

At the beginning of this paper it was noted that as psychiatric medicine progresses in Japan, the focus is shifting from tertiary to primary prevention. In terms of the objectives and targets of prevention, while secondary and tertiary prevention are aimed at "early diagnosis and response" and "treatment, work reinstatement, etc." respectively, and targeted at individual subjects, primary prevention aimed at averting problems before they occur is not geared only toward the individual but also toward the overall work environment or organization (See Figure 4). In other words, mental health measures thus far have largely focused on individuals' stress and resulting disorders, and aimed to alleviate stressors and achieve early diagnosis and treatment of individuals. However, when the focus is broadened to the entire organization, it becomes necessary to enhance the organization's resources accordingly. Organization-wide efforts may include achieving work-life balance, providing appropriate career opportunities to employees, heightening overall productivity and boosting employee morale. The pursuit of such efforts cannot be the sole responsibility of industrial health staff, but also requires close coordination with management and the human resources division. There are commonalities between training for cultivation of human resources, heretofore led by management, and primary-prevention mental health training conducted by industrial health staff, and integrating the two appears to be a promising means of boosting the ease and effectiveness of preventive measures. For example, Japanese companies' human resources training often incorporates "leadership theory," focusing on questions like "What makes a leader who motivates others?" and "What makes a leader who advances the organization?" Apply similar perspectives to mental health care by management and supervisors, and we may observe that of the three commonly noted leadership styles (transformational, transactional, and laissez-faire) (Burns 1978; Bass and Avolio 1990), laissez-faire leadership is the most likely to lead to mental health issues among subordinates (Vartia 1996), while transformational leadership is the least likely to do so and the most conducive to high levels of employee motivation. These correlations are becoming increasingly clear (Tims, Bakker, and Xanthopoulou 2011; Waqas 2012), and combining perspectives in this way allows management-level personnel to learn mental health care approaches that avert disorders among subordinates while they are studying leadership. Also, comparing general communication skills in business with the cognitive-behavioral approaches and problem-solving methods of self-care, we find that while terminology and perspectives may differ, the basic concepts have much in common.

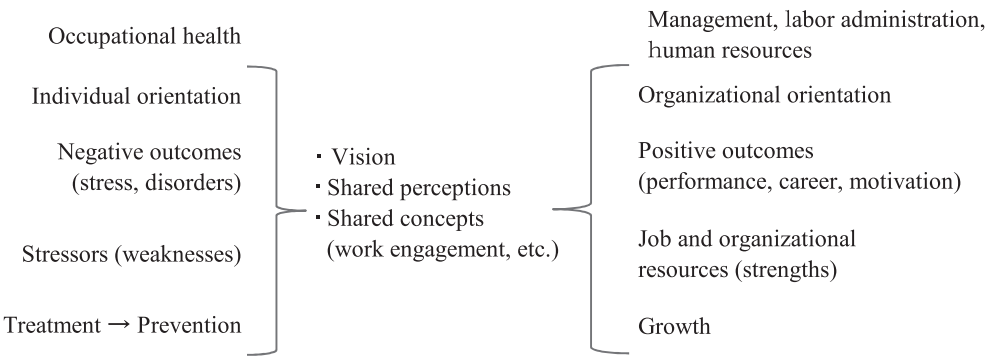
As the above indicates, there is a need for effective channels of communication between industrial health staff, human resources divisions and management, and one concept that can help to establish a shared perspective is that of "work engagement" (Schaufeli et al. 2002). Work engagement is defined as having three elements: dedication (seeing one's work as meaningful and significant), absorption (concentrating fully on work), and vigor (deriving stimulation from work and being energetic). The opposite of work engagement is



Source: Adapted from Kompier and Cooper (1999, 18).

Figure 4. Mental Health in the Workplace: Changing Views of Prevention

"burnout." According to meta-analysis of correlations between work engagement and outcomes, employees with high levels of work engagement enjoy good mental and physical health, adopt positive attitudes and take the initiative at work, and have high levels of job satisfaction. Furthermore, studies have shown that food service businesses where employees have strong work engagement enjoy outstanding sales (Xanthopoulou et al. 2009), and that at hotels and restaurants where employees' work engagement is strong, customer satisfaction and repeat customer rate are high (Salanova et al. 2005). In other words workers with high levels of engagement are not only healthier but work more vigorously and contribute to business performance. While some employers may not recognize the need for mental health care measures (Japan Institute for Labour Policy and Training 2011), there are few employers uninterested in boosting sales, and the concept of work engagement can serve to motivate employers in this category. A questionnaire survey on corporate productivity by the Japan Productivity Center (2008) found that among management issues seen as taking on urgent importance in the future, "boosting employee motivation" ranked third following "creating added value for products and services" and "strengthening marketing and sales frameworks." Work engagement is a concept highly compatible with the concerns of businesses interested in increasing employee motivation. Incidentally, factors determining work engagement are categorized into job resources (support from supervisors and co-workers, latitude to make decisions, growth opportunities, etc.) and personal resources (self-efficacy,



Source: Partially adapted from figure prepared by Akihito Shimazu.

Figure 5. Future Outlook for Mental Health in the Workplace

self-esteem, etc.) (Halbesleben 2010). Incorporation of these perspectives can enhance training for self-care, training for care by management and supervisors, and improvement of work environments, and strengthen employees' work engagement.

As I have described, Japan's future outlook for prevention of mental disorders in the workplace depends on industrial health staff, human resources divisions, and management not only maintaining close communication, but also sharing a broad vision and common goals, cooperating with and supplementing one another's functions, and working together to develop effective measures (See Figure 5).

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