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Policy Address^{*1}

JMAJ 51(3): 141–142, 2008

Yoshihito KARASAWA^{*2}

I am honored to report that, with the support of JMA members from regions throughout Japan, I was reelected for a 2nd term as JMA President at the 118th Regular General Assembly of the JMA House of Delegates. I would also like to express my warmest thanks for the generous support and guidance I received during my previous 2-year tenure.

Looking back over my initial 2 years as JMA President, I feel as if we were hit full-on by rough seas from our start, coming as it did in the midst of a truly unparalleled period of change for the healthcare system. With the Council on Economic and Fiscal Policy announcing a shrinking over 5 years of social security costs, which has a fiscal base of 1.1 trillion yen (9.2 billion US dollars),^{*3} and the introduction of laws related to healthcare system reform without due examination of the system, among other incidents, it felt as if we spent the entire 2 years battling for dear life as we tried to pull the brakes on a runaway train that had already jumped the tracks.

In running the JMA, I intend to continue to push forward undaunted with sincerity and in good faith, confronting head-on the difficult situation surrounding healthcare and working with our richly experienced officers from around the country who gave me their nomination to address the mountain of issues we face by bringing together ideas and opinions and fully exercising our comprehensive strength.

The environment surrounding healthcare has become much more difficult in recent years. Certainly, changes to the social structure such as the super-ageing society and industrial economy have hugely affected the direction of the entire social security system, beginning with the correction of disparities between regions, the progress

of scientific technology and national healthcare issues in the future, and efforts to address the provision of specialized medicine and the harsh working environments of hospital-based doctors.

In recent Diet debates, opinion has been divided on issues such as tax issues that greatly affect local governments, such as the incorporation of special road accounts into general revenue and the so-called expiration of temporary gas tax rate measures.

The national government's healthcare system reforms are currently in a state where it is impossible to escape from the finance-driven model, and depending on the future direction of government policies, there are grave concerns that these reforms will result in an increased burden on the public and a decrease in healthcare quality, leading down the path of destruction of local healthcare systems. The tax system problem, which also concerns the financial backing of an appropriate healthcare provision system, will continue in future to require the utmost attention.

The core philosophy of the JMA is to encourage all members in their continuous study in the fast-evolving medical and healthcare fields, and contribute to public healthcare in accordance with medical ethics. The public hold high expectations for us to achieve this primary objective. Moreover, the *raison d'être* of each and every one of our members, regardless of how intensely busy their days may be, lies in the tremendous sense of satisfaction achieved by providing continuous quality healthcare and persevering with local healthcare activities. Based on the grassroots of such healthcare activities, the healthcare required by the public must be safe and of high-quality. For patients, it is vital that doctors persevere in providing warmhearted,

^{*1} This is a revised English version of the reappointment address originally delivered in Japanese by Dr. Yoshihito Karasawa at the 118th Regular General Assembly of the JMA House of Delegates held in Tokyo, April 2, 2008.

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^{*3} 1 US dollar = 120 yen.

highly satisfying healthcare. Moreover, from the perspective of public healthcare, it is of the utmost importance that we make efforts to establish a universal and equitable healthcare provision system.

In order to establish a large, enduring movement to achieve these objectives, we need to present healthcare policies and principles with future potential—the cornerstone for all JMA members—and make the pursuit of the kind of healthcare required by the public our primary objective.

With the arrival of the super-aging society, we must quickly establish a stable and permanent medical system that will form the core of the social security system, encompassing health services, the medical care system, the nursing care system, and the pension system, in order to maintain the health and quality of life of people throughout their lifetimes, as well as to create a prosperous longevity society. For each of the related factors—advances in medicine and healthcare and the growing aged population, changes in disease structure, and health management of the current working population, etc.—it is truly important that convincing healthcare policies be formulated based on evidence and implemented with the understanding and cooperation of various parties.

Looking at the situation from this standpoint, I believe that, in regard to the central issues for the JMA—from gathering detailed information about local healthcare activities such as social medicine analysis, medical economics analysis, and epidemiological analysis of disease emergence conditions, as well as immediate treatment of illness such as emergency care, to the observation, examination, and analysis of the conditions of all local healthcare systems and cultivation of the foresight and backbone required to present proposals and recommendations regarding these topics, future outlooks, and countermeasures—we must make such efforts the headwaters of our activities.

In order to secure public health under the current circumstances, in which so many difficult-to-assess problems exist, the JMA needs to continue pouring its maximum efforts into invigorating

and establishing support for local healthcare in preparation for the construction of a future healthcare system with an indomitable spirit, keeping in perspective the opinions of members throughout the country and the future vision of healthcare desired by the public.

Before summer, the Council on Economic and Fiscal Policy is expected to compile their “Basic Policy 2008” in preparation for the government’s budget planning for the next fiscal year. This Basic Policy, which is already under discussion by the Cabinet Office’s National Commission on Social Security, is expected to strongly influence the shape of social security, including funding.

Last year the JMA prepared and published a compilation of general and specific statements entitled “Grand Design 2007.” As the subtitle of this document indicates, what we should be aiming for is the reconstruction of “Optimal Healthcare that the Public Can Trust.” I recognize that the required role of the JMA is to ensure that the contents of the Grand Design are reflected in government policies.

Respecting the “Saitama Declaration” and “Okinawa Declaration” prepared by the Hospital-based Doctor Committee Liaison Council, which reflects the voices of clinic doctors, hospital-based doctors, residents, young doctors, and women doctors nationwide, and based on important statements such as our “Policy Regarding a System of Providing Home Healthcare and Nursing Care” and the “JMA Proclamation on the Support of Children,” the JMA needs above all to bring together the opinions of all members and strive to present effective proposals and recommendations regarding the direction healthcare should take in future. We will proactively take up and address these issues in the course of our daily activities.

I conclude my remarks with a promise to exercise my duties as JMA President wholeheartedly, working together with the new executive members towards securing national health and revitalizing community healthcare.

In future I will also take opportunities to report on the progress of our efforts, and I ask for your continued understanding and support.

Guidelines on End-of-Life Care^{*1}

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Japan Medical Association

The problem of how medical care should be provided in the terminal stage of life, including the initiation, withholding, alteration, and withdrawal of treatment, has long been one of the most important challenges for healthcare professionals.

The 10th Bioethics Council of the Japan Medical Association hereby proposes guidelines concerning the actions of physicians in end-of-life care.

In these guidelines, we opted not to define end-of-life care. The terminal stage is experienced differently in different cases, and we consider that decisions should be made by the medical care team^{*2} based on the conditions of each patient. We recommend that the readers consult *Grand Design 2007—Specific Discussions* published by Japan Medical Association, which defines the terminal stage both in a wider sense and in a narrower sense (Appendix 1).

Introduction

Recent advances in medicine and healthcare have enabled us to save the lives of many patients. Nevertheless, there are increasing cases where terminally ill patients with no possibility of recovery are receiving life-sustaining treatment contrary to the wishes of the patients, their family and/or other appropriate persons.^{*3} Increasing opinion is being raised that excessive treatment should be discontinued, because it is not only meaningless but also a potential infringement of the dignity of patients.

Placing greater emphasis on the patient's

quality of life rather than the pointless attempt to sustain life, end-of-life care should be practiced considering the options of withholding and withdrawing life-sustaining treatment depending on individual cases. In such situations, we are faced with problems involving procedures such as the administration of drugs, artificial respiration, and nutrition. The withdrawal of such treatments leads to the death of the patient, and therefore the decision to take such actions must be made with prudence. Judgment regarding the withholding and withdrawal of life-sustaining efforts should not be made by the attending physician alone, but should be adequately supported by the opinion of the medical care team comprising other physicians and various healthcare professionals.

Two important prerequisites for withholding or withdrawing therapeutic actions are: 1) the fact that the patient is affected by an incurable disease and is in terminal stage, where there is no hope of recovery and death is expected in the near future; and 2) the presence of a currently valid indication of the patient's wishes requesting the withholding or withdrawal of therapeutic actions.

The decision regarding the impossibility of recovery and the inevitability of death, mentioned in 1) above, is made by the medical care team. The indication of the patient's wishes, mentioned in 2), must be confirmed by such means as the oral statement of the patient or, in the case that the patient has lost the ability to make sound judgment, an advance written indication provided by the patient (a living will or an advance

^{*1} These guidelines were issued in February, 2008 by the 10th Bioethics Council of the JMA.

^{*2} As a rule, the medical care team consists of the attending physician, one or more physicians other than the attending physician, nurses, social workers, and other healthcare professionals.

In the case of home care, a system to support the decision of physicians engaged in home care (e.g., establishment of a committee) should be constructed by appropriate organizations such as local medical associations. In this endeavor, the committee of the local medical association or other organization providing support should stipulate relevant internal rules and keep the minutes of meetings.

^{*3} "Patient's family and/or other appropriate persons" may include not only legal relatives but also the persons who are entrusted by the patient. It is desirable that the patient has a proxy designated in advance to speak for the patient in the terminal stage.

directive). Some professionals consider that even if the advance indication of the patient's wishes is not obtained directly from the patient, a decision may be made based on the wishes expressed by the patient's family and/or other appropriate persons, provided that they are sufficient for the inference of the patient's wishes. In this case, it is important that the physician obtains sufficient information from the family and/or other appropriate persons as the basis for the inference of the patient's wishes. The physician should have full discussion with the patient's family and/or other appropriate persons and consider what would be the best for the patient.

Principles of End-of-Life Care

- (1) The decision that a patient is in the terminal stage should be made by the medical care team led by the physician and consisting of several healthcare vocations.
- (2) The initiation, withholding, alteration, and withdrawal of treatment should be decided prudently by the medical care team according to the patient's wishes and based on medical reasonability and suitability.
- (3) Pain and other distressing symptoms should be alleviated to the extent possible and comprehensive treatment and care should be provided including the mental and social support to the patient, the family and/or other appropriate persons.
- (4) Actions such as active euthanasia and physician-assisted suicide are not acceptable.

Basic Procedures for Determining End-of-Life Care Strategies

The initiation, withholding, alteration, and withdrawal of treatment in the terminal stage may have serious consequences. In particular, the withdrawal of treatment is likely to result in the death of the patient. Therefore, physicians must be extremely prudent in determining the strategies for end-of-life care. The following describes the basic procedures that should be followed in the initiation, withholding, alteration, and withdrawal of treatment in the terminal stage.

- (1) If it is possible to confirm the patient's wishes,

strategies should be determined by the medical care team respecting the patient's wishes based on informed consent. In this process, the physician should have sufficient discussion with the patient, the patient's family, and/or other appropriate persons, avoiding coercion, and should document the content of discussion.

In this case, explanation should be given and the patient's wishes should be reconfirmed whenever necessary, depending on the passage of time, changes in the patient's condition, and the revision of medical evaluation. Unless the patient refuses, the content of the decision should be made known to the patient's family and other appropriate persons.

In the case of emergency care, the decision on the initiation of medical treatment should be left to the discretion of the attending physician based on the dignity of life.

- (2) If the patient is unable to express his or her wishes and there is advance written indication of the patient's wishes provided by the patient^{*4} (hereinafter referred to as "the written advance directive"), the validity of the written advance directive should be confirmed with the patient's family and/or other appropriate persons, and a decision should be made by the medical care team. If there is no written advance directive but the patient's wishes can be inferred from the information from the patient's family and/or other appropriate persons, treatment strategies respecting the inferred wishes should be employed. The consent of the patient's family and/or other appropriate persons needs to be obtained also in this case. If it is impossible to infer the patient's wishes, treatment strategies that are the best for the patient should be employed, considering the decision of the patient's family and/or other appropriate persons.

However, if it is impossible to contact the patient's family and/or other appropriate persons, they do not indicate any decision, or there is disagreement of opinion among them, the medical care team should make decision and obtain the approval of the patient's family and/or other appropriate

*4 The "written advance directive provided by the patient" refers to the document in which the patient provides advance wishes regarding the end-of-life care to be given to him or her.

persons regarding this decision as a rule.*⁵

In all of the above cases, the confirmation, consent, and approval of the patient's family and/or other appropriate persons must be obtained in writing.

- (3) If it is difficult to determine the content of medical care within the medical care team, or the discussion between the patient and the medical personnel has not reached an agreement regarding the content of reasonable and suitable medical care, a separate committee comprising several healthcare vocations should be established to examine and advise on treatment strategies and other issues.

Concluding Remarks

We have thus far described the basic principles and procedures regarding end-of-life care, focusing on the initiation, withholding, alteration, and withdrawal of treatment in the terminal stage and referring to the Guidelines on the Decision Making Processes in End-of-Life Care published

by the Ministry of Health, Labour and Welfare.

It is necessary to establish an institutional framework to protect healthcare professionals from civil and criminal legal liabilities for withdrawing life-sustaining treatment according to the procedures shown in these guidelines in the case that a terminally ill patient rejects life-sustaining treatment or the patient's family and/or other appropriate persons reject life-sustaining treatment when it is impossible to confirm the patient's wishes.

The problems related to end-of-life care are going to be all the more important with the increase in the aged population in Japan. It is important that medical students, as well as all healthcare professionals, seriously consider the problems related to end-of-life care, and these should be incorporated in the curriculums of medical education.

Appendix 2, which shows a flow chart of the procedures to be followed in determining treatment strategies in end-of-life care, may help further understanding.

*⁵ The wording "as a rule" is used here because there may be situations in which the approval of the patient's family and/or other appropriate persons is unobtainable because such persons are unreachable or absent.

Appendix 1

The “Terminal Stage” in the Wider Sense

(Unless otherwise specified, the term “terminal stage” is used in this sense.)

- (1) The stage in which the best available medical care would not stop progressive aggravation of the condition and death is considered inevitable in the near future.
- (2) The “terminal stage” begins when the presence of the condition described in (1) above is declared by more than one physician including the attending physician, nurses, and more than one other pertinent healthcare professional, and is understood and agreed on by the patient or, when the patient is unable to make decisions, the patient’s family and/or other persons (including not only legal relatives but also the persons entrusted by the patient) who can infer the patient’s wishes.

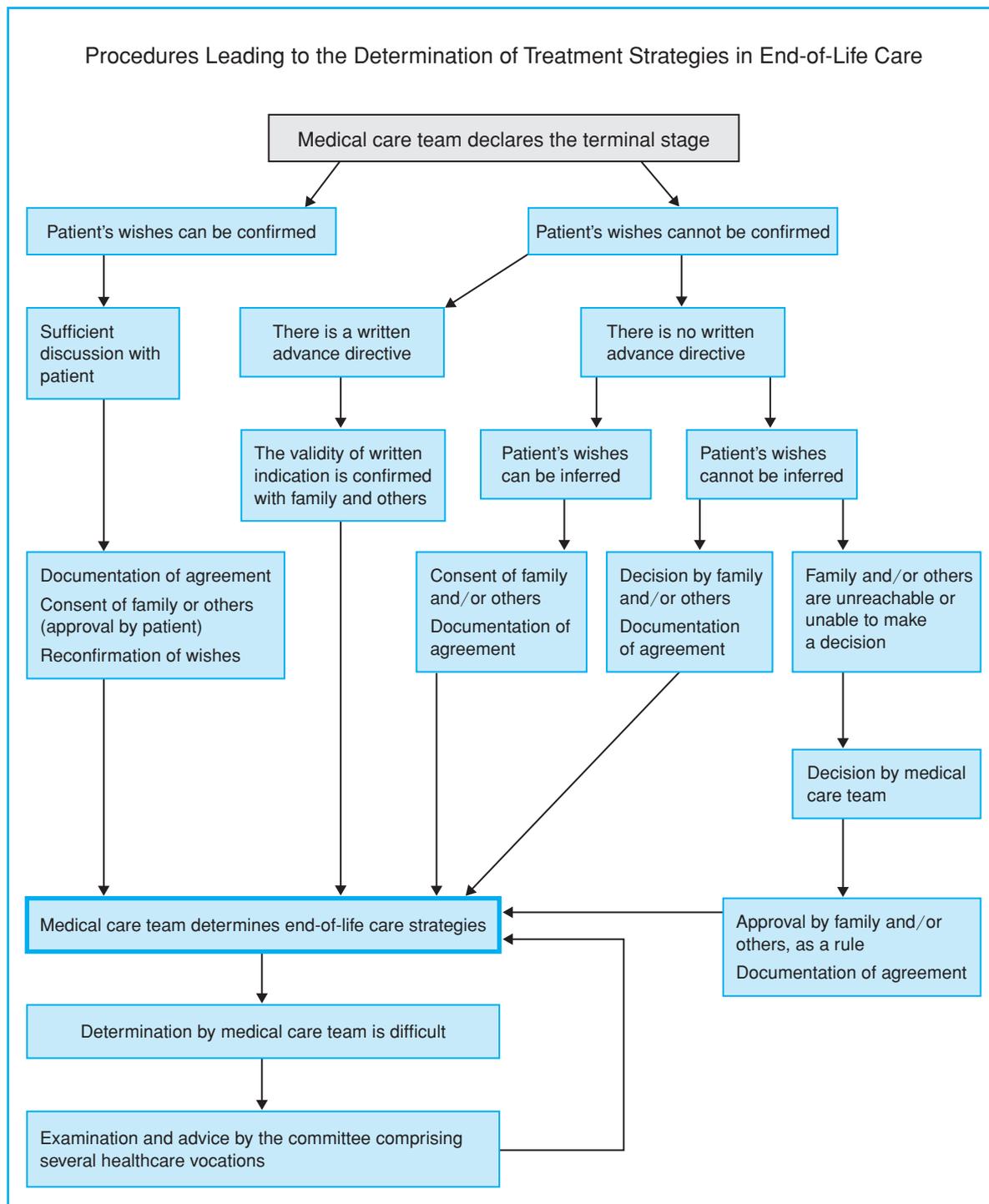
The “Terminal Stage” in the Narrower Sense

(Near-death condition)

The near-death condition in which death is imminent.

Source: Grand Design 2007—Specific Discussions

Appendix 2



The 10th Bioethics Council of the Japan Medical Association (2006–2007)

Chair

Fumimaro TAKAKU President, Japanese Association of Medical Sciences,
President, Jichi Medical University

Members (*Alphabetical order*)

Kiyoshi AOKI Professor Emeritus, Sophia University

Tsutomu FUKUTA President, Toyama Medical Association

Akihiro IGATA President, Nagoya University of Arts and Sciences

Tetsuya ISEKI President, Nagasaki Medical Association

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Mariko KUSUMOTO Executive Officer, Japanese Nursing Association

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Satoko TAMURA Director of Department of Social Work, Higashi Sapporo Hospital

Takao YAMADA Professor, Nihon University Law School

Observers

Rintaro SAWA Research Director, Japan Medical Association Research Institute

Wataru MIZUTANI Senior Researcher, Japan Medical Association Research Institute

Construction of Modules for International Cooperation Method in School Health

—Technical cooperation in school health education in Thailand and Myanmar—

JMAJ 51(3): 149–158, 2008

Seiji OHSAWA*¹

Abstract

This “Activity project aimed at the sustainable development of cooperation in school health” was started in 2002 as a project for International Cooperation in Education by the Ministry of Education, Culture, Sports, Science, and Technology (MEXT). The improvement module carried out in Thailand and Myanmar in the last 5 years demonstrated a high degree of effectiveness in terms of sustainability, high cost-benefit performance, verification of positive results, sequence of short-term results to long-term results, and multiplied effects from school to community. The project consists of four phases: (1) Targeting 30 experts who have experience in international assistance, a Delphi survey was conducted to determine urgency, cost effectiveness, the likelihood of positive effects, and how easy it would be to transfer Japan’s successful experience. Based on the results, the following six fields were selected for phase 2; (2) A) Establishment and management of a school health improvement team; B) Establishment of healthcare rooms, preparation of minimum equipment, and provisions for training in the measuring method; C) Life-style improvement through health quality control (HQC); D) Improvement of school environment and hygiene through HQC; E) Promotion of school safety through HQC; F) Fostering of animals and plants and instruction on nutrition. The activity manuals for the above fields were prepared in Japanese and Thai, and their effectiveness was verified in Thailand; (3) The effectiveness of the improved modules was verified in Thailand and Myanmar; and (4) The modules will be introduced throughout Myanmar, and will be extended into other countries.

Key words School health, International cooperation, Thailand, Myanmar, Assistance module

Introduction—Two spheres of action regarding international cooperation in education

Activities regarding international cooperation in education in Japan are grouped into two spheres of action: i) a theoretical sphere dedicated to the introduction of school health trends in foreign countries and programs of foreign academic societies and associations as the Japanese Association of School Health and the Japanese Society of School Health have been doing, and ii) a practical sphere to provide assistance to

developing countries.

The first sphere is mainly for utilizing foreign school health information in Japan, while the second sphere is mainly for utilizing Japan’s past experience in order to improve school health targeting pupils and students in developing countries. Accordingly, the international health activities have two different aspects. It can be said that international school health has ambiguity.

Compared to the volume of accumulated experience in the first sphere, the second sphere can rely on an extremely small amount of experience. The second sphere is still trying to find its way, mostly depending on the results of future

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implementation and research by international cooperation projects. Under such circumstances, we have implemented school health improvement modules in Thailand and Myanmar in the past 5 years. Here we introduce the modules, which showed effectiveness in terms of sustainability, high cost effectiveness, verification of results by data, sequence of short-term results to long-term results, and multiplied effects from school to community.

Objective of Research

The project, titled “Activity project aimed at the sustainable development of cooperation in school health,” was started in 2002 as a project in international cooperation in education by MEXT. It is aimed at constructing an effective and sustainable methodology for school health cooperation targeting mainly Southeast Asia. To this end, the following procedure has been established. First, assistance is given by providing practical knowledge and technology concerning specific themes through workshops and on-site training in the school. Later, the school independently carries out the school health improvement project for several months according to their own program. The results are evaluated objectively. If a successful result is confirmed by assessing the data, the method is regarded as one of the cooperation modules. The module is further considered if it is transferred to other areas.

The researchers’ group represented by Ohsawa was organized by placing its research base in the Institute of human living science, Otsuma Women’s University. Researchers from Tottori University, Kanazawa University, Chukyo University, Nagoya Gakuin University, Niigata University, International Budo University, University of Tsukuba, Tokyo Metropolitan University and Tokyo Institute of Technology joined the project.

Construction of Methodology

Phase 1: In order to search for target countries, areas, themes, and methods, we conducted a Delphi survey targeting 30 researchers who have practical experience in international cooperation. The survey asked what kind of fields should have priority among the various fields of school health; if projects should adopt the top-down

method or bottom-up method; what are the issues hindering the development of cooperation projects; what kind of projects have the highest urgency, high cost-benefit performance, or make it easier to transfer Japan’s successful experience.

For this survey, at first 250 Japanese experts were recruited. Among them, 30 experts were selected, and they were asked the same survey questions three times in a 6-month period until they reached conclusion. Their responses were summed up.

As a result, the following six priority areas were selected:

A) Establishment and management of school health improvement teams;

Under the leadership of the school principal, all teachers, representatives of students, parents, health center, administrative institutions, and other organizations make up the teams in order to carry out continuous activities according to the plan.

B) Establishment and management of school health offices;

School health offices are to be established in order to store basic minimum equipment and provide training on measuring methods. Three to four implementation leaders as well as the principal play central roles in developing the HQC movement (a method formulated by applying QC methods developed in Japan to health promotion).

C) Life-style improvement through HQC (health quality control)¹⁻³;

Based on the concept that the solution to all health problems starts with life-style improvement, life-styles are checked in order to prepare for various health problems.

D) Improvement of school environment and hygiene through HQC;

Movement for systemic and organized improvement is to be developed using HQC. Using equipment and measuring method mentioned in B, teachers take leadership in the implementation of the health improvement movement based on scientific data. The improvement team mentioned in A will play an important role.

E) Promotion of school safety through HQC;

Based on the HQC method, all students, teachers and community residents are to fix dangerous items, and the health movement is to be carried out according to the improve-

ment plan.

F) Fostering of animals and plants and nutrition guidance;

The school itself tries to earn cash and secure food by growing rice, vegetables, medical herbs, fish, cattle, and fruit, in addition to providing nutrition guidance and managing the meal supply.

The improvement team mentioned in A plays a leading role in the implementation of all these programs. Data are collected without fail before and after the improvement project to hold a report meeting about once every 6 months.

* When the school suggests its own improvement program in addition to these programs, we support it as much as possible.

Phase 2: Japanese manuals for each of the above six fields (From A to F) have been prepared. These manuals were translated into Thai, Myanmar, and Nepali, to hold workshops in Ubon and Chiang Mai provinces in Thailand. A total of 33 schools joined the workshop. After the workshop, each school was asked to submit their own school health improvement program. The submitted programs were screened in cooperation with local relevant individuals. As a result, five schools were selected as model schools. They include three schools in the poorest area along the national border in Ubon province and two schools in minority hill tribe communities, the Mon and Karen tribe communities in Chiang Mai province. Targeting these schools, a technical workshop was held a total of seven times. Each school made and implemented its original program considering the characteristics of its region, and established a school health committee. After 3 years of implementation of various improvement projects, their results were reported. According to these results, a development cooperation module for each field was proposed. The model schools continuously introduce and extend the proposed module to the neighboring schools. Local NGOs also join and support the program.

Phase 3: The effectiveness of the improvement module established in Thailand has been verified in Myanmar. In October 2006, The Foreign Affairs Policy Committee (FAPC), the highest foreign policy-making institution in the nation, authorized the implementation of the program. Currently, foreigners are never able to enter schools

without this permission. In the total of 40 schools in Yangon, Mawlamyine, Mandalay, and Patheingyi, workshops were held. In the workshops, the measurement equipment was provided, and instructions were given on the measurement method, the improvement method, the recording method and others. Furthermore, 12 schools were designated as model schools. We visited those schools and provided on-site training. Each model school made detailed improvement programs in the six fields, and carried out them in cooperation with local human resources. After a 6-month program implementation, outcomes were evaluated and a significant effect was confirmed in the open presentation meeting. These improvement programs continued to be carried out in this second year, having remarkable effects.

Phase 4: As feasibility of the method was confirmed as shown in the above, the module is to be introduced and developed throughout Myanmar. The project will continue in cooperation with supporting business entities and NGOs also in the future.

Supporting institutions and organizations: Ministry of Education of Kingdom of Thailand, Education office of Ubon province, Education office of Chiang Mai province, NGO inside Thailand, 20 hill tribe-related NGOs inside Thailand, Ministry of Education of the Union of Myanmar, Japanese Myanmar-related NGOs, MEXT Japan, The Toyota Foundation, Japan Society of Human Growth and Development

Outcome

Part of the outcomes of the six programs are described below.

A) Establishment and management of school health improvement team

School health activities can obtain outcomes when they are conducted organizationally. Three to four important teachers as well as the principal are to join the workshop. In the workshop, participants learn how to carry out improvement activities through practical training using a manual in the local language. Participants go back to their school and organize a team asking all teachers. As the activities draw more attention, the team can involve children, parents, school supporters, health center, village office, and NGOs

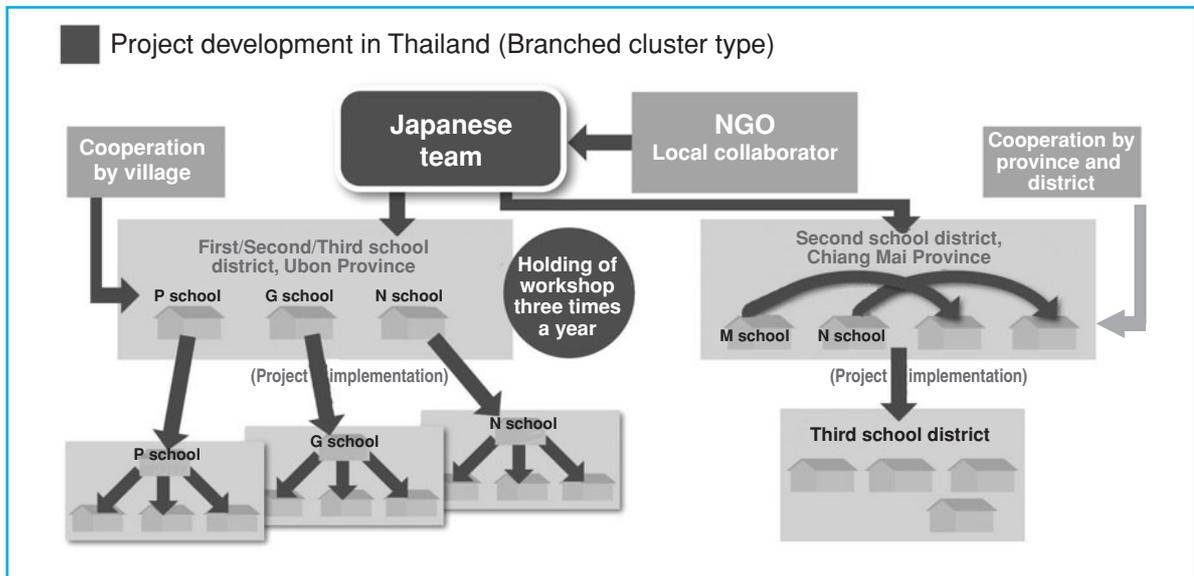


Fig. 1 Extension image of project system in Thailand

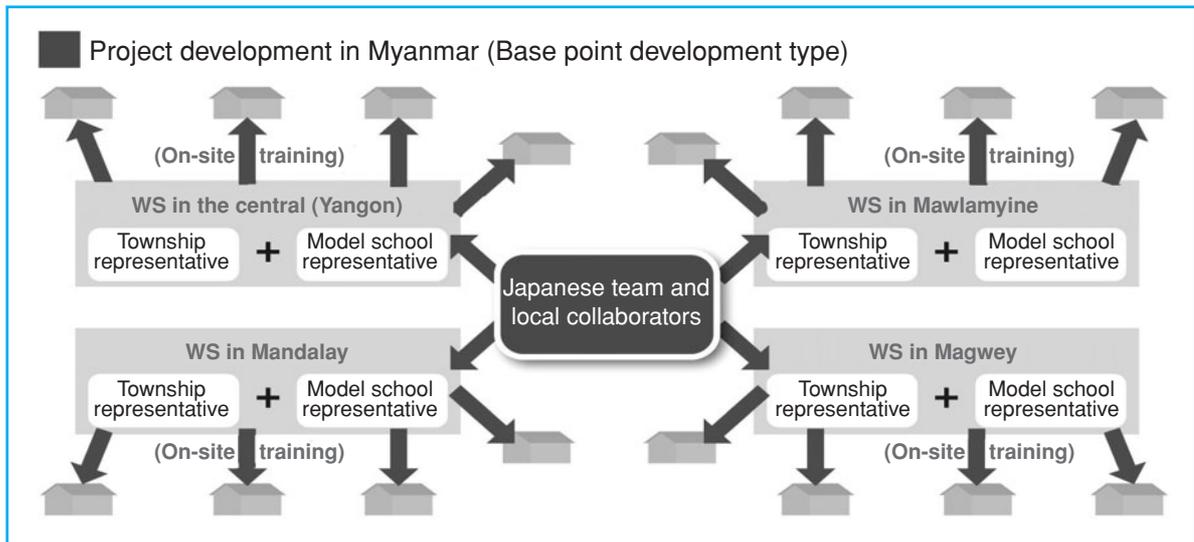


Fig. 2 Extension image of project system in Myanmar

as activity supporters. Some improvement teams consist of only children. Beforehand, the district superintendent of education and others should be asked to participate in the workshop. (In Myanmar, key post officials including chiefs of bureaus in the Ministry of Education also participated.) (Figs. 1, 2)

B) Establishment and management of school health offices

While human resource factors were mentioned in the above, in this field the focus is on spatial factors. Space is to be secured as a base place for member meetings, team holding, team manage-



Fig. 3 Brushing teeth (Ubon city, Thailand)



Fig. 4 Establishing a barber shop as counter-measure against lice (School in Karen community, Thailand)

ment, improvement activities, and health education. It is also to be used for storing measuring equipment, medical supplies, and various records, as well as to provide student with a place for resting and temporary medical care. In many developing countries, schools do not have a school health office. For school management, however, setting up a school health office means a lot more than merely giving first-aid. If there is no space for a school health office in the school, a corner of the principal's office will do. In the workshop, the basic items for implementation of the module are provided. Among them are: height measuring rod, sitting height measuring rod, tape measure, skin fold caliper, weight scale, eye chart (long-sight/short-sight), tuning fork, as well as an illuminance meter, a water quality test kit, mesh type soap bar holder, and a school health improvement manual.

C) Life-style improvement through HQC

This is a school health method to which the QC method was applied. Using this method, even a life-style which seems difficult to improve can be improved in several months. As parasitic diseases and infectious diseases are largely related to life-style, instructions are given to enable the students to manage their own basic life-style based on their age. Recommended life-style activities include: washing hands, feet, and face; gargling the throat; taking a bath (bathing); refraining from eating raw meat/fish; food management; early to bed and early to rise; getting enough sleep; cleaning up clothing and housing; wear

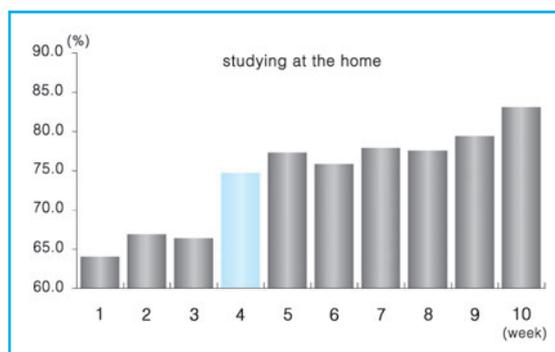


Fig. 5 Time elapsed before improvement program begins to exert its effects

things or shoes; keeping the body warm; brushing teeth properly; watching TV; and helping parents (Figs. 3, 4). Students are to check these items every day, and teachers are to evaluate the students' activities every week. These data are to be summarized and recorded in a booklet with graphs. In several weeks, their life-style improvement is recognizable by anyone (Fig. 5). Even a child with the problem of not having regular bowel movements, which usually takes the longest time to solve, have regular movements in about 3 months. Regarding the other items, the effects become recognizable in about 2 weeks. Before long, the whole school takes notice of the effects of the HQC method, and it begins to apply this to various other school health problems. Regarding this, an enormous amount of data has

Table 1 Time elapsed before life-style improvement program exert its effects

	1 to 3 days	1 week	1 month	3 months	6 months	1 year and longer
A System construction			1	2	3	4–5
B Healthcare room and activities			1	2	3	4–5
C Life-style improvement		1	2	3	4	5
D School environment and hygiene		1	2	3	4	5
E School safety	1	2	3	4–5	5	5
F Fostering (animals/plants)				1	2	3–5

Each number (1–5) indicates the level of effects.

Table 2 Examples of measuring methods for school environment improvement and countermeasures

Measurement and training	Examples of countermeasures				
B Vision (short, long-sight)	Wearing glasses	Chair adjustment	Improvement of visual environment	Improvement of reading and TV-watching habit	Visual recovery exercises
B Hearing	Chair adjustment	Wearing acoustic aid	Improvement of auditory environment		
B Height, Sitting height	Desk and Chair adjustment	Improvement of restroom/blackboard location	Architectural design	Growth assessment and instruction	
B Skin fold thickness, Weight, Girth	Eating habits guidance	Exercise guidance	Implementation of Foster program (F)		
D Water quality	Cleaning of cups, tanks, etc.	Guidance to water company	Boiling water to drink	Selection of water purification	Construction and repair of wells
D Noise, Dust	Improvement of classroom environment	Life-style improvement			
D Illuminance	Adjustment by means of curtains	Cutting trees, Tank removal	Window refurbishment	Adjustment of lighting, blackboard and desk	Painting ceilings and walls
C HQC method	*Putting improvement activity into practice	*Life-style improvement	*Application to Safety activity (D)	*Implement as a team activity (A)	*Application to (F)

been accumulated (Table 1).

D) Improvement of school environment and hygiene through HQC

When the illuminance of various points inside the school are measured in an orderly manner by the illuminance meter, it is often found that

most classrooms have an inappropriate visual environment. It is recognized that this adverse environment may cause fatigue and deteriorate the efficiency of children's learning, deterioration of posture, weakening eyesight, and others. The results of the eyesight (long/short sight) test should closely be related to this problem. The

issue is what to do. The improvement team members discuss methods to achieve a classroom with well-balanced brightness or countermeasures for children with visual disorders. Countermeasures taken for the solved problems are to be indicated on the table. Improvement is to be achieved by deciding details such as measurement, evaluation, improvement plan, budget, responsible persons, and improvement schedule, in that order. Improvement takes several weeks or so (Table 2).

1) Improvement of water quality

Water quality testing is to be conducted in order to secure an appropriate level of drinking water quality. Drinking water of many schools is contaminated with coliform bacteria. In some cases, the water shows positive results for other test items, such as ammonia and COD. For example, response measures are easily taken when dirty glasses or water taps cause pollution of the bottled water that should be safe. However, sometimes water itself runs short in mountainous area, wells are not usable in the rainy season, or water is polluted by human and animal waste. In these cases, it is often necessary to formulate another improvement plan for securing safe drinking water. In most of these cases, however, the problems have been solved by the whole organization's recognizing the fact and considering the measures. The important point is that the whole school considers the solution involving the local community. Some schools demanded that the drinking water company improve the pollution. Water quality testing provides the scientific foundation for finding such problems.

2) Anthropometry

Measurement of height, sitting height, skin fold thickness, and chest girth enables to evaluate growth and nutritious conditions objectively. In practice, however, these measurements affect management and use of school supplies, such as desks, chairs, blackboards, and restrooms to a great extent. In developing countries, children very often use learning equipment and supplies that do not fit their sizes. This should be improved depending on their standard physical size. In many cases, the school building itself is just a temporary shanty. Often, even school buildings constructed with donations from volunteer supporters turn out to have been built in a haphazard way. There are countless examples of this: such school buildings have corridors that are too



Fig. 6 Sorting out waste (Ubon city, Thailand)

narrow, steps that are too steep, grab rails that are way too low, blackboards placed too high, and other problems. Measurement of the students' physical size will lead to the construction of school buildings based on ergonomic criteria and a rational classroom environment. Of course, many developing countries do not have standard values for growth and nutrition. Accordingly, assistance institutions in those countries tend to continue unsystematic efforts with little scientific basis. It is necessary to conduct other tests gradually, including tests for dust, noise, ventilation, and others.

3) Waste Management

In any country, the issue of waste management is one of the familiar themes that have long been unresolved. In Thailand or Myanmar, the most eye-catching sight is discarded waste. In order to solve this, the project team is instructed to decompose the problem using the fishbone diagram of the HQC or CUDBAS method (Curriculum Development Based on Ability Structure).⁴

Problem decomposition is carried out considering why waste generates, why people do not clear up waste, and how they can solve the problem. In this way, the team members come to see the waste disposal issue as a familiar task anyone can carry out. Then, they come to focus on the whole school's engagement in the core of this problem, by sorting out, incineration, landfilling, selling out, and cleaning. The school in the Karen-tribe community started exchanging waste for money, naming the system "waste bank." This motivated and involved the residents of the whole community. As a result, not only the school

but also the Karen village became drastically clean. This took only 3 months. This program can be carried out in any school at hand. Some schools can earn as much as 5,000 baht a year adopting this program (Fig. 6).

4) Management and Cleaning of Restrooms

This program is aimed at involving school teachers in restroom improvement as their own problem. There are restrooms without water, schools that do not teach how to use restrooms, unclean restrooms, clogged restrooms, those close to the wells (water pollution source), and those generating worms and maggots. Many schools bought cleaning equipment, set up turns for restroom cleaning duty, and let children compete in terms of cleaning and hygiene management. Many schools newly construct restrooms with their earnings from the waste bank and sales of vegetables and fish in the next F program.

E) School Safety Management

In any country, accidents are one of main causes of death. The numbers become enormous if we include cases of accidental physical impairment and injury as well as cases of death by accident. In Japan, the number of cases where insurance benefits are paid by the government due to students' death, impairment, and injury under the supervision of school amounts to 2 million in a year. Potential risks for accidents are inherent in the school environment. In a developing country, there is a great number of dangerous points in the school environment, and among teachers, parents, and children there is a very low level of safety awareness and concern. Accordingly, accidents causing physical impairment and injury occur on a daily basis. To make it worse, in general there are no statistics on accidents. Although acute infectious diseases and parasite infection are important issues in these countries, children's accidents occur with a much greater frequency. Considering that the emergency rescue system is hardly improved, the prevention of accidents is a priority issue in school health. Accordingly, safety management in the school environment is first explained, and then, HQC activities for accident prevention are introduced in the workshop. In the practical training in the school, teachers are asked to check every place in the school in cooperation with students, in order to identify dangerous points. The dangerous points they find are plotted on a large school map to make a haz-



Fig. 7 Village residents' activity for school route safety

ard map. Dangerous points on the hazard map are to be improved by formulating an improvement plan based on HQC method. Many schools post the hazard map in the school to draw the attention of all students, and develop improvement activities. As the Mon tribe village had no traffic signs, all students of the school cooperated in making and placing hazard signs and traffic signs. As the effects of this program can be confirmed instantly as shown in Table 1, the program is important as a pioneering improvement activity. In the implementation of this program, it is recommended to keep photographic records of before and after the improvement as well as the statistics on accidents (Fig. 7).

F) Fostering of Animals and Plants (foster program)

In this program, teachers and students grow animals and plants by themselves, and use them for school meals or sell them. In the workshop it is recommended to get a large yield by growing various vegetables, medical herbs, fish, pigs, chickens, frogs, rice, bananas from seeds, chicks, or juvenile fish, and sell them in order to get funding for improvement activities or to use them to make up nutritious school meals. This program can be carried out more actively in the rural schools with a vast expanse of school land. P elementary school, which is located in the poorest area in Thailand along the border with Laos, had too many problems to carry out improvement activities after the workshop. The principal was also unwilling to carry out the activities. However, three young teachers who participated in the



Fig. 8 After slope improvement



Fig. 9 Construction of fish culture pond



Fig. 10 Harvesting in a farm



Fig. 11 Vegetables harvested in a farm

workshop received banana seedlings donated by local farmers. They planted banana seedlings, made a pond to grow juvenile fish. Their activities started to develop smoothly. Before long the activities became school-wide and became a village-wide self-sufficiency movement. Now, this P elementary school plays a leading role as a school health improvement model school. Under the guidance of P school, the surrounding 18 schools are carrying out the program. M school in the Karen tribe community, in cooperation with the district office, bulldozed the slope of the school land, (Fig. 8). Teachers and students made a new pond (Fig. 9), a pig pen, a chicken pen, and even a herb garden (Figs. 10, 11). Now the school land is just like a farm (Fig. 12). Although this school is in a hill tribe community, it won the



Fig. 12 Paddy field completed

second prize in school health competition in Chiang Mai Province last year. The school that won the first prize also developed HQC activities. This school is engaging in the improvement activities so enthusiastically that it dispatches a teacher to the next district to give guidance on improvement activities.

Conclusion

This school health improvement program requires easy tests and skills any non-expert can carry out

in a school setting. It consists of various activities, so that effects can be expected in various phases; from the day the program starts to several weeks or several months later. The method, to which this QC is applied, can not only improve school health in a sustainable way in any area at a moderate price, but can also improve the whole school. Furthermore, it can develop into environmental education and other life-style improvements in the local community. In the future, methods for solving issues more closely related to the local community should be formulated.

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Recent Issues in Administrative Measures for School Health Education

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Abstract

School health in Japan is now undergoing a period of transition. While the traditional focus of school health has been the management of infectious diseases including tuberculosis and parasitism, dental caries, and heart and kidney diseases, we are now seeing the emergence of mental health, allergic diseases, and obesity as central issues reflecting recent changes in the health problems of schoolchildren and students.

These new health issues may not be addressed effectively with the conventional methodology of health management centered on regular health examination conducted by school doctors and yogo teachers (school nurse-teachers). Finely tuned cooperation among teachers and other school employees, guardians, and medical practitioners and medical institutions (various clinical departments) in the community is essentially needed for solution of these problems.

Since 2004, the national government and the Ministry of Education, Culture, Sports, Science and Technology have been promoting the School-Community Health Collaboration Program to induce a shift from school health activities in a school to those open to the community, and this effort has been making steady progress.

For the future, we are endeavoring to promote school health measures responding to modern health problems of schoolchildren and students, including the amendment of the School Health Law providing the basis for school health.

Key words School health, Allergic disease, Mental health, Metabolic syndrome, School doctor

Development and Health Status of Children and Students

The Ministry of Education, Culture, Sports, Science and Technology (MEXT) is regularly conducting a “school health statistics survey” to characterize the development and health status of children, students, and infants on a yearly basis. In the following sections, we review the development and health status of children based on the results of the report on the 2006 school health statistics survey published in March 2007.

Prevalence of overweight and underweight children

From 2006, overweight and underweight chil-

ren have been identified according to the ratio between the measured body weight and the standard body weight calculated from sex, age, and height (degree of obesity), as specified in the Manual for Health Examination of Children and Students (Revised Edition) published by the Japanese Society of School Health in March 2006. Children with a ratio of 120% or more are considered overweight, while those with a ratio of 80% or less are considered underweight.

According to this definition, the prevalence of overweight among boys was 2.6% at age 5, 11.8% at age 11, 11.2% at age 14, and 12.9% at age 17; that among girls was 3.0% at age 5, 10.0% at age 11, 9.2% at age 14, and 9.7% at age 17. On the other hand, the prevalence of underweight among boys was 0.4% at age 5, 2.5% at age 11,

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Table 1 Summary of trends in leading diseases and abnormalities

(%)

Division		Unaided vision below 1.0	Ear disease	Nose and sinus disease	Oral and throat disease and abnormality	Tooth decay (dental caries)	ECG abnormality	Protein excretion	Parasite eggs	Asthma
Preschool	1996	21.4	1.7	2.7	3.6	73.7	—	0.5	1.3	1.0
	2002	26.5	2.0	3.5	2.4	61.5	—	0.4	0.4	1.3
	2003	25.3	2.2	3.0	3.2	58.8	—	0.3	0.4	1.5
	2004	20.8	1.8	2.7	2.3	56.9	—	0.6	0.3	1.3
	2005	20.4	2.1	3.2	2.0	54.4	—	0.6	0.2	1.6
	2006	24.1	2.9	3.4	2.0	55.2	—	0.5	0.2	2.4
Elementary school	1996	25.8	3.6	10.0	2.3	85.7	2.0	0.6	2.6	1.6
	2002	25.7	4.3	11.2	2.2	73.9	2.2	0.6	0.9	2.7
	2003	25.6	4.5	11.1	2.2	71.3	2.3	0.6	0.8	2.9
	2004	25.6	4.3	10.4	1.9	70.4	2.5	0.6	0.7	3.1
	2005	26.5	4.5	11.2	1.9	68.2	2.4	0.6	0.5	3.3
	2006	28.4	4.9	11.9	1.9	67.8	2.3	0.7	0.5	3.7
Junior high school	1996	49.8	1.9	7.8	1.2	84.8	2.6	1.9	—	1.5
	2002	49.0	2.6	9.4	1.3	71.2	3.1	2.1	—	2.2
	2003	47.8	2.7	10.1	1.2	67.7	3.5	1.9	—	2.3
	2004	47.7	2.7	9.3	1.1	64.6	3.3	2.0	—	2.4
	2005	47.8	2.8	10.6	1.2	62.7	3.2	2.1	—	2.7
	2006	50.1	3.1	10.7	1.1	59.7	3.3	2.3	—	3.0
High school	1996	62.7	0.9	5.9	0.8	90.1	2.6	1.8	—	0.8
	2002	63.8	1.7	7.7	0.8	82.3	3.1	1.8	—	1.4
	2003	60.0	1.2	7.4	0.8	77.9	3.3	1.7	—	1.3
	2004	59.3	1.3	6.8	0.7	76.0	3.3	1.9	—	1.5
	2005	58.4	1.3	8.1	0.8	72.8	3.2	1.8	—	1.7
	2006	58.7	1.7	8.2	0.7	70.1	3.5	2.4	—	1.7

Notes: 1. Figures have been rounded to the first decimal place.

2. ECG abnormality is examined only at ages 6, 12, and 15.

3. The tests for Parasite eggs are conducted only at ages from 5 to 8.

(Quoted from the Report of 2006 School Statistics Survey, MEXT.)

1.5% at age 14, and 1.4% at age 17; that among girls was 0.4% at age 5, 2.5% at age 11, 2.8% at age 14, and 1.2% at age 17.

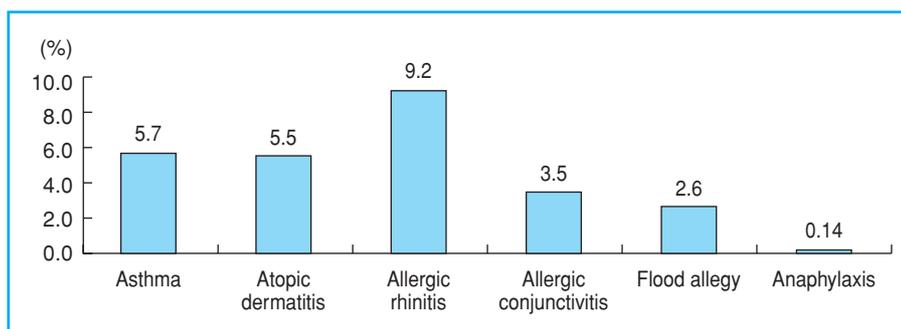
Prevalence of leading diseases and abnormalities (Table 1)

The statistics for the prevalence of various diseases and abnormalities show that the most prevalent condition is “tooth decay (dental caries)” at all school levels, followed by “unaided vision below 1.0.”

Recent Issues in Administrative Measures for School Health Education

Infectious disease control at schools

Recent global epidemics of highly pathogenic avian influenza (H5N1) and the repeated sporadic reports of infection to humans have caused concern about the possible emergence of new types of influenza. According to the announcement of the World Health Organization (WHO), human cases of highly pathogenic avian influenza (H5N1) reported since November 2003 include



(Quoted from the Research Report on Allergy Diseases, MEXT, March 2007.)

Fig. 1 Prevalence of allergic diseases among all children and students

281 patients (169 deaths) in 12 countries as of March 20, 2007.

In Japan, the government has been making concerted efforts to address this problem based on the Pandemic Influenza Preparedness Action Plan issued in December 2005.

MEXT formulated the MEXT Action Plan for Phase 4 and Later Influenza Control¹ in September 2006. This plan specifies what MEXT requests local education boards and other relevant organizations to do in phase 4 (outbreak of new type influenza) and later phases, as well as instructions regarding the survey and research that must be conducted urgently at relevant research institutions and the instructions to children and students attending Japanese schools.

The Enforcement Order relating to the Infectious Disease Prevention Law was amended in June 2006, and in response the Enforcement Regulations relating to the School Health Law were amended. The regulations after amendment classify influenza (H5N1) as a class 1 infectious disease in the list of infectious diseases requiring preventive actions at schools. In addition, through issuance of notice to schools via local education boards, MEXT is calling for actions such as encouraging children and students to perform mouth and hand washing, developing a system for communication among schools, and improving the distribution of information to parents.

Allergic diseases

MEXT established the Research Committee on Allergic Diseases consisting of relevant experts in October 2004, in response to the increase in the number of children and students with asthma

reported in the School Health Statistics Survey and the increase in allergic diseases among children revealed in other epidemiological studies. The Committee conducted a nationwide survey, conducted analysis and evaluation of results, and developed future plans. A report was published in April 2007.

The survey conducted in this research project was a complete count survey covering 36,830 public elementary schools, junior high schools, high schools, and secondary schools (12.77 million children and students). Survey forms were distributed to schools via local education boards in December 2004, and the data as of the end of June 2004 were collected. The survey investigated (1) the present state of allergic diseases among children and students, and (2) the current actions taken at each school against each disease.

The results of the survey regarding (1) the present status of allergic diseases among children and students are summarized in Fig. 1 showing the prevalence of allergic diseases among all children and students. Please visit the MEXT website (http://www.mext.go.jp/b_menu/houdou/19/04/07041301.htm) for more detailed information.

Regarding (2) the current actions taken at each school against each allergic disease, the survey investigated various actions taken at schools against allergic diseases. The following summarizes the survey results and the evaluation and analysis of results.

- Asthma. Only 58% of all schools are prepared for emergency response. Schools need to ensure that teachers and school personnel know emergency care and the procedure for requesting ambulance transport in the event of a serious

asthma attack.

- Atopic dermatitis. Only 46% of all schools are using precautions in physical education and other classes. It is important that teachers and school personnel understand the basic knowledge that sweat, ultraviolet light, swimming pool disinfectants, etc. may aggravate the conditions of children and students with atopic dermatitis and appropriate precautions are taken.
- Food allergy. Over 80% of elementary and junior high schools with a complete school lunch service are taking precautions in providing school lunches. The most important point is to prevent allergic symptoms resulting from school lunches. For this purpose, schools should promote measures such as the provision of alternative menus according to the physician's judgment of the need for food avoidance and depending on the actual situation of each school.
- Anaphylaxis. Only 13% of all schools are providing places for safekeeping of medications. Self-injectable drugs are sometimes prescribed to children and students with a history of anaphylaxis, so that they can inject the drugs when they experience premonitory symptoms. The provision of places for safekeeping of medications, as well as safekeeping of medications by school personnel, benefits such children and students. An effective step for promoting such measures is to establish standard methods through investigation and analysis of leading cases, focusing on concrete methods used in such cases and what the school and parents need to discuss before implementing such measures.

After the presentation of survey results and evaluation, this report provided the following conclusions.

- Allergic diseases are not rare among children and students. School healthcare should be considered on the assumption that there are children and students with various allergic diseases in schools and classes.
- Based on this recognition, actions to address allergic diseases should aim at the following goals.
 - (1) To establish a mechanism ensuring that the actions for individual children and students are based on the instructions of physicians.
 - (2) To ensure that various actions at schools are based on medical evidence and implemented in a safe, reliable, and efficient manner.

The Committee further provided the follow-

ing recommendations to improve the present situation.

- (1) Establishment of a mechanism centered on the "School Life Management Guidance Form" incorporating response to allergic diseases.
- (2) Study on the implementation methods of various measures based on investigation and analysis of leading cases.

Mental health problems

To address the aggravating mental health problems in children, MEXT established the Mental Health Building Committee under the Japanese Society of School Health. The Committee conducted the Survey on Mental Health Building covering elementary, junior high, and high schools across Japan to grasp the present situation and identify problems, and investigated ways of improving the organizational mechanisms within schools and collaboration with relevant organizations in the community.

According to the Survey on Mental Health Building, "the percentage of schools in which there were children who received direct support considered necessary by school nurses" was 78.0% of elementary schools, 95.3% of junior high schools, and 95.4% of high schools. The most commonly observed problems included "problems of personal relationships with friends, family, etc."; "problems of school refusal, staying in the infirmary, unwillingness to attend school, withdrawal, etc."; "problems of maladjustment to group life such as mild developmental disability"; and "problems related to sex." The survey on "the number of children who actually sought medical care after recommendation from school nurses" showed that elementary school children visited pediatricians, institutions operated by local education boards, and psychosomatic medicine clinics in decreasing order; junior high school students visited psychosomatic medicine clinics, psychiatrists, and pediatricians in decreasing order; and high school students visited psychosomatic medicine clinics, psychiatrists, and internal medicine clinics in decreasing order. "The percentage of schools in which there were children who received support for problems related to mental health" was 13.3% of elementary schools, 11.8% of junior high schools, and 15.5% of high schools.

Based on these results, the Committee concluded that enrichment of organizational

mechanisms within schools and strengthening of collaboration with relevant organizations in the community are essential to the actions for addressing the mental health problems of children.

School and Community Health Collaboration Program

From Fiscal 2004, MEXT has been promoting the School and Community Health Collaboration Program in cooperation with local medical associations and other relevant organizations. In this Program, specialist physicians (psychiatry, obstetrics and gynecology, orthopedics, dermatology, etc.) are sent to schools responding to the request from schools, guidance and advice are given to teachers and school personnel, and health counseling and health education related to the mental and physical health of children are provided.

Initiated as a model program intended to help promote school and community health collaboration for the future, this program was implemented in all prefectures in 2005, and is still continued as of 2007.

The specialist physicians sent to schools in Fiscal 2005 were psychiatrists, obstetricians/gynecologists, orthopedists, dermatologists, and pediatricians in decreasing order. They served as lecturers at seminars for teachers and school personnel, and also provided health counseling for parents, children, and students.

Future School Health Activities

Changes in health issues

School healthcare has long been dealing with infections, dental caries, heart disease, kidney

disease, and other disorders as the main problems affecting child and student health. These disorders will remain an important focus of school healthcare. However, in addition to these physical disorders, mental health problems have been emerging in recent years.

Changes are occurring even in physical disorders. We are now faced with the threat of previously unknown infections with the potential of serious social impact, such as new type influenza. Responses to modern problems such as allergic diseases and obesity are also needed urgently.

Strengthening school and community collaboration

With the dramatic changes in the problems of child and student health, school healthcare is required to promote actions based on evidence in the same sense as that in medical care. To be able to cope with various health issues at schools, we need new methodologies crossing conventional borders, including the strengthening of school and community collaboration.

In particular, the response to modern issues such as mental health problems and allergic diseases requires increased involvement of specialists. While we are now promoting the School and Community Health Collaboration Program as a model program, we need to analyze the results achieved so far and identify better ways for school and community health collaboration.

At the same time, school healthcare within the conventional framework should also be enriched further to keep up with the expectations of the children, students, and parents. A particular area requiring special attention in this endeavor is the protection of personal information and the privacy of children and students.

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School Crisis and Mental Care— The crisis response team (CRT)^{*1}

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Abstract

In 2001, a man with a knife walked into an elementary school in Japan and killed 8 students. Triggered by this tragic incident, mental health specialists in Yamaguchi Prefecture organized a rescue team for mental care, called a crisis response team (CRT), in 2003. CRTs were subsequently organized also in Nagasaki, Shizuoka, and Wakayama Prefectures. A CRT is a team of consisting of specialists such as psychiatrists, clinical psychologists, psychiatric social workers, public health nurses, and nurses. During the period of up to 3 days following the occurrence of an emergency incident, they support the crisis management by schools and education boards, and provide emergency mental care. A CRT is an external team working independently of schools and education boards. The Prefectural Mental Health Center serves as the headquarters of CRT. Providing support from an external team within a limited time span is considered an effective means to deal with serious accidents or criminal incidents in schools.

Key words Crisis response team, Crises in schools, Trauma, Mental health center

Introduction

Suicides of young students involving problems of bullying frequently made the headlines in 2006, and schools and education boards often became the target of criticism. There is no difference among a school, an enterprise, and a hospital in the importance of crisis management in the event of a serious criminal incident or an accident. Due to the very nature of a crisis, poor response to an event tends to cause a chain of secondary problems and lead to expansion of damage. A rush of mass media reporters, sorrow and anger of the bereaved, growing distrust of parents, and fatigue of teachers and school personnel form a vicious spiral, and the most important cause of “protecting children” may be left behind.

The general public blames the school for allowing the incident to happen, and hastily looks for the cause, asking, “who bullied the victim?”

The blame on the school hurts teachers and undermines their effectiveness in protecting children, while the hunt for the culprit impels children to reproach one another. This is a sad situation. Although evasion of responsibility is by no means acceptable, what we need to protect children in the first instance is cooperation of the school, families, and communities.

The school and the education board are demanded to account for the incident or accident that has already happened. In such a case, an external crisis response team (CRT) independent of schools and education boards can provide effective support. The name “CRT” was taken from that of similar organizations in the United States,¹⁻³ and we adopted the basic concept of “sending a specialist team for a limited period mainly to support caretakers.” However, CRTs in Japan are organized on a prefectural basis, and their activities are limited to schools for the time being.

^{*1} This is a revised English version of a paper originally published in the Journal of the Japan Medical Association (Separate Vol.136, No.4, 2007, pages 39–42). The article is based on a presentation made at the School Doctor Seminar hosted by the Japan Medical Association at the JMA Hall on February 24, 2007.

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Table 1 Activities of CRTs in different prefectures

Year	No.	Summary of accident/incident	Level	Type of school	Days	Persons	Person-days
Yamaguchi Prefecture							
2003	1	Mother kills 2 children and attempts suicide	III(-)	Elementary school	3	6	15
	2	Mother kills a child and commits suicide	III(-)	Elementary school	3	7	15
2004	3	Mother kills a child and attempts suicide	III(-)	Kindergarten	3	9	20
	4	Student collapses in school and dies in hospital	II	Elementary school	2	6	9
	5	Mother and child die	II	Elementary school	3	9	18
	6	High waves engulf 5 students, killing one	II	Elementary school	2	7	11
2005	7	Student commits suicide in school	III(+)	Junior high school	3	11	25
	8	Student throws explosive into a classroom	IV	High school	3	11	28
2006	9	Student is killed in school	III(+)	College of technology	3	15	33
2007	10	Student kills family	II	High school	2	9	12
Nagasaki Prefecture							
2005	1	Teacher commits suicide in school at night	III(-)	Elementary school	4	5	14
	2	Student drowns during an event outside school	III(-)	Junior high school	3	10	20
	3	Student falls to death at home	II	Junior high school	3	11	16
	4	Student commits suicide outside school, witnessed by teachers	II	Junior high school	3	7	13
	5	Student commits suicide outside school, witnessed by students	II	High school	2	3	5
2006	6	Student commits suicide in school, witnessed by students	III(+)	High school	3	14	23
	7	Student commits suicide outside school	II	High school	2	11	13
2007	8	Student commits suicide at home	II	High school	2	9	12
	9	Student commits suicide at home	II	High school	3	11	21
Shizuoka Prefecture							
2005	1	Father kills a child and commits suicide	III(-)	Junior high school	3	6	11
	2	Father commits suicide involving a child (drowning)	II	Elementary school	1	2	2
2006	3	Student commits suicide at home	II	Junior high school	3	8	17
	4	Brothers and their mother are killed	III(-)	Junior high school	1	9	9
2007	5	Student commits suicide in school at night	III(-)	High school	3	12	24
	6	Student falls to death in school, witnessed by several persons	III(-)	High school	3	16	27
2008	7	Student dies in train accident outside school	II	High school	2	9	17
	8	Student commits suicide outside school	II	High school	3	14	25
Wakayama Prefecture							
2007	1	Child, mother, and grandfather are killed at home	III(-)	Elementary school	2	10	16
2008	2	Student commits suicide outside school	II	High school	3	11	23

What Is a CRT?

Beginning of school CRTs

In June 2001, an intruder with a knife killed 8 elementary school students in a tragic incident known as the massacre at Osaka Kyoiku University Ikeda Elementary School. Shocked by this incident, my colleagues and I strongly^{4,5} felt the need to establish a “rescue team for mental care” consisting of mental health specialists. After 2 years of preparation, we launched the Yamaguchi Prefecture CRT in August 2003 (<http://www.h7.dion.ne.jp/~crt/>). Similar CRTs subsequently started in operation in Nagasaki and Shizuoka Prefectures, followed by one in Wakayama Prefecture in August 2007. Several other prefectures

are in the course of preparation. The four prefectures that already have CRTs are working toward unification of manuals and training, aiming at an interoperable system. The records of actions of CRTs in respective prefectures are summarized in Table 1.

What is a school CRT?

A school CRT is a “rescue team for mental care,” which is dispatched to a school immediately after a serious criminal incident or accident that may cause psychological trauma in many children, and works at “preventing the expansion of secondary victimization and providing mental first aid.” The team responds to the incidents of levels from III(-) to IV in Table 2. CRT members comprise public and private specialists in various

Table 2 Levels of school crises

Level	Example
VI	Terrorist attack at the school in North Ossetia
V	An intruder kills 8 elementary school students at Osaka Kyoiku University Ikeda Elementary School
IV	An elementary school student kills a classmate using a snap cutter at an elementary school in Nagasaki Prefecture A high school student throws explosive into classroom at a high school in Yamaguchi Prefecture, injuring 58 persons (17 hospitalized)
III(+)	A junior high student commits suicide by jumping in school, witnessed by many An elementary school student drowns to death in the school's swimming pool, witnessed by many students
III(-)	A parent kills his or her child and many media reporters gather in the school
II	A student collapses and dies after being sent to hospital
I	A student dies in traffic accident during a family trip

CRTs are dispatched in response to incidents from level III(-) to level IV.

vocations including psychiatrists, clinical psychologists, mental health workers, public health nurses, and nurses, etc. The Mental Health Center serves as the headquarters of CRT. The team is an external organization independent of education boards.

Developing the system for the response to local disasters and other incidents outside schools is an issue that must be addressed in the future. For the time being, we need to develop a workforce with sufficient crisis response capability through accumulation of experiences in school crisis response. The ability to deal with unpredictable contingency, which is required in crisis response, is not developed merely from manuals and exercises. We can have veterans among CRT members only after the team has been active for a few years and experienced several turnouts.

The following describes the support provided by the CRT.

Support Provided by the CRT

Advice to the headmaster

Leadership is important in a crisis. Therefore, the CRT first of all supports the headmaster. The captain of the CRT stays with the headmaster and gives advice whenever needed.

Advice and support to teachers and school personnel

Teachers must remain calm and be able to react

appropriately. Therefore, the CRT approaches teachers before it approaches children. The team helps teachers solve problems, gives advice regarding the response to children's needs, and even provides counseling to teachers. The members sometimes enter classrooms and infirmaries in support of teachers. They evaluate the damage to children and develop a care plan. In addition, they hold a meeting of teachers and give lectures on what to do for children (psychological education). It is not recommendable to hold a large meeting on the first day children attend school after the incident, as panic may spread from child to child and an uncontrollable situation may result.

Support to parents attending children

Many of the children who were not directly harmed and did not witness the incident are expected to stabilize, if the parents remain composed and provide appropriate care. Specialists should tell parents what to do for their children (psychological education) on occasions such as the meeting of parents held by the school. Parents should be instructed: "When the child is trying to speak, listen attentively and do not change the subject"; "If the child is not willing to speak, do not be inquisitive and say, 'I will be here for you whenever you want to talk'"; and "Children feeling strong anxiety can be paradoxically high-spirited. So, do not scold them."

In the cases involving fatalities, the team advises the school on the relations with the bereaved and the participation in funerals.

Emergency responses for children and parents

Ensuring the stability of the school community as a whole through the above actions, the team approaches the cases requiring individualized care. Face-to-face counseling and telephone counseling are provided on request. Cases requiring continued care are handed over to school counselors for follow-up. If medical care is needed, students are advised to visit medical institutions, and school doctors may also play important roles as the most accessible care providers. In addition to treating patients, school doctors are expected to help relieve the anxiety of parents, cooperate with the school, and make referral to psychiatric care, as required.

Support in media relations

School managers are busy with the nerve-wracking task of dealing with the onslaught of mass media. The CRT supports the school and the education board in media relations to facilitate faithful and proactive disclosure of information. Announcements regarding the specific description of mental care are given directly from the CRT.

Problems and Proposals

Strengthening the crisis response capabilities of schools and education boards

The education board needs to dispatch an overly sufficient number of personnel immediately. The number of persons needed during the first 3 days (excluding specialists), according to past experience, is as follows.

Level IV crisis:

4 or more persons at any time

Level III(+) crisis:

3 or more persons at any time

Level II and III(−) crisis:

2 or more persons at any time

Most public elementary and junior high schools in Japan are under the control of municipal education boards. Level III or more severe incidents occur only at a rate of 1 or 2 times per year in a rural prefecture with a population of 1 million, whereas individual personnel stay in a position only for a few years. The education boards of smaller municipalities, therefore, have difficulty in gaining expertise through experience. As first-hand experience makes a differ-

ence in crisis response, it is important that the prefectural education boards dispatch personnel and let them gain first-hand experience. In this way, the prefectural education board should maintain a workforce with sufficient crisis response capabilities.

Enrichment of mental care provided by schools and education boards

In Japan, school counselors (usually part-time workers serving 1–2 times a week) are posted at many public junior high schools and some other schools. These school counselors generally have sufficient capability for the mental care after a level I incident. In the case of level II and more severe incidents, the education board would have to dispatch specialists including school counselors. In practice, rural prefectures are short of specialists and would have difficulty in mustering specialists. If the number of specialists dispatched were insufficient, the burden on them would be excessively large. In addition, there is a fundamental problem that specialists under the direction of the education board cannot effectively play the leading role that they should perform as specialists. In Fukuoka Prefecture,⁶ an emergency support system has been established with the cooperation of Fukuoka Society of Certified Clinical Psychologists. However, this method imposes a heavy burden on specialists, and its applicability is limited to highly populated areas such as Fukuoka, Chiba, and Kyoto Prefectures.

External support from the CRT

The dispatch of the CRT as an external team is desirable in the case of level III and severer incidents. The CRT is a team specializing in the initial response to “level III and more severe incidents for 3 days at the maximum.” It is not dispatched in level II or lesser incidents. The CRT of Yamaguchi Prefecture begins on-site support within 4 hours of a request. The duration of service is limited to 3 days because of the physical and mental limits of team members, as members need to return to their usual work and family life and prepare for the next turnout. This restriction also prevents the overdependence of schools. When members are dispatched, they are removed from their usual work, and this may cause a great deal of trouble to the organizations they belong to. We deeply appreciate their understanding and cooperation.

As a CRT is a mixed team consisting of various professionals belonging to different public and private organizations, fostering a strong sense of teamwork through routine practice is essential. It is the ties among team members that protect them from intense stress. It should be emphasized that every member more or less suffers from a degree of secondary traumatization as a result of exposure to the psychological trauma of others.

The number of members to be dispatched is determined by the CRT. For example, a level IV incident requires 15 or more specialists (including CRT members and school counselors) per day. The CRT comprises members performing three types of activities: command, mental care, and logistics support. The members in charge of command make decisions on important issues, discuss with the principal, and interact with the mass media. The members in charge of mental care give advice to teachers and provide individualized care to children and parents. Those in charge of logistics support perform service and support activities focusing on logistics including recording, documentation, assistance in counseling, and preparation of meals.

The mental care for a traumatized child often extends over a year or more. The school and the education board should take responsibility for

providing specialists such as school counselors for mid- and long-term care after the withdrawal of the CRT. However, a school is primarily the place for education rather than therapy, and specialists are too busy to work for long periods on an outreach basis. For these reasons, children requiring therapeutic care should basically be treated at medical institutions.

Conclusion

A CRT is an external team, which is not established by the education board. In the administrative system, it is organized under the lead of the health and welfare department. However, simply allocating a budget does not put the team into operation. The enthusiasm and techniques of us specialists are crucially required. Of course, CRTs do not take over the responsibilities of schools and education boards. Parents and inhabitants in the community should also stand up and take action to protect children, without leaving the matter to schools and specialists. A CRT can prove its worth only through a widespread movement in which specialists, local governments, schools and education boards, and parents and inhabitants “carry out their responsibility” and “do what they can.”

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Present State and Issues of Workplace Mental Health

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Abstract

After the collapse of the bubble economy, dramatic changes have occurred in the environment around workers, including those in the labor market and personnel management systems. According to the Worker Health Survey, the percentage of workers feeling stress continued to increase until 1997, but the increase stopped in 2002. The leading cause of stress is interpersonal relations in the workplace, followed by the nature of the job and the volume of work. The number of suicides in Japan has exceeded 30,000 for 8 consecutive years. Middle- and high-aged workers suffering from economic difficulties, struggling workers in their 30s, and delicate young workers are presenting serious social problems. Mental health activities in industrial health have evolved from the Total Health Promotion Plan to Creation of Comfortable Workplaces and then to the Guidelines for Promoting Mental Care in Enterprises. The guidelines indicate four types of care: self-care, line care, professional care, and outside care. The revised Mental Health Guidelines, based on the amended Occupational Safety and Health Law, comprehensively encompass from primary to tertiary prevention.

Key words Mental health, Suicide from overwork, Mental Health Guidelines, Industry, Stress

Introduction

As mental health problems spread among socially weak people in a “society with widening disparities,” mental health in the workplace is becoming a critical issue. The problem is how to support such people. They need individualized support, because they have become socially weak as a result of various background factors and there are no standardized measures that apply to all people. Drug treatments are effective for depression, anxiety, and other conditions occurring as reactions to underlying causes, and such treatments can achieve temporary recovery from mental health problems. However, unless measures are taken to modify the causative factors in the workplace and the individuals’ ability to cope with stress, symptoms are likely to return and patients will suffer a relapse of mental health problems

sooner or later.

The high-growth period following the post-war WWII restoration in Japan continued until it was checked by two oil shocks and the Plaza Agreement. Overcoming these adversities, the economy entered the bubble era. The collapse of the bubble in 1991 marked the beginning of the long period of sluggish economy. In and around 1993, companies started to undergo drastic restructuring, and M&As (mergers and acquisitions) became common. The systems of lifetime employment and seniority, considered the secret of success for the post-war Japanese economy, faded out following the collapse of the bubble economy. A dramatic transformation of companies took place not only in Japan but also in other countries as their economies globalized. However, the changes in Japan were particularly sudden and extensive. The globalization of the economy

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and the IT revolution, affecting all aspects of people's lives, has caused radical alterations in the work environment, which seem to become even more profound in the 21st century.

The metabolic syndrome, recently attracting keen attention, is not unrelated to mental health. In the stressful life of today, some people resort to unhealthy eating habits such as overeating as a means of coping with stress, while many individuals are working long hours without time for leisure activities or physical exercise. Such lifestyle is considered responsible for the development of metabolic syndrome. In other words, lifestyle factors that are emphasized in relation to metabolic syndrome are similarly important in mental health.

This article summarizes the present state and problems of workplaces and workplace mental health, and outlines the framework of measures to promote mental health.

Work Environment of Today

After the collapse of the bubble economy in 1991, dramatic changes occurred in the environment around workers in Japan, including those in the labor market and the personnel management systems of companies. The following changes occurred in the work environment.

Changes in the employment environment

After the collapse of the bubble economy, demand in employment shrank as a result of the business reorganization of companies. Many firms promoted payroll reduction through such means as reducing the employment of contingent workers, withholding the recruitment of new regular employees, loaning and transferring of employees, giving incentives for early retirement, and encouraging voluntary retirement. In 1997, many leading companies went bankrupt, notably Yamaichi Securities Co., Ltd. and Hokkaido Takushoku Bank. As a result, the unemployment rate soared from 2.1% in 1990 to 5.4% in 2002. In this situation, the suicide rate started to increase markedly in 1998.

The long period of restrained recruitment of new graduates or the 'ice age of employment' is a factor contributing to the increase in mental health problems among workers who are in their 30s now.

Personnel management policies

About 10 years have passed since so-called results-oriented management was introduced as a progressive approach. Although to differing extents, many companies are using results-oriented management, which places much more importance on achieving final results than the processes (skills, knowledge, efforts, etc.) towards achievement, and rewards workers differently according to achievement. Naturally, this approach requires greater transparency and accountability regarding the evaluation of workers' performance.

Results-oriented management gives a lot of stress not only to the persons being evaluated but also to the persons performing the evaluation. As a consequence of this change, managers, who used to rate workers almost uniformly in performance assessment and evaluation, are now forced to conduct more strict evaluation, making it difficult for managers to perform their function of "observing and supporting." This is having a serious impact on the mental health of workers.

Employment systems

When an end was put to Japanese-style management, such as lifetime employment and the seniority system, workers experienced the loss of the quasi-family organization that had supported them and the stability of employment was undermined. Workplaces nowadays consist of a mixture of regular and contingent employees, who are receiving very different treatment. This situation has created a new type of stress involving interpersonal relations.

High skill levels, specs, and human abilities required for regular employees

Simple jobs that do not require a high skill level are usually outsourced, particularly in large companies. On the other hand, regular employees are required to have high skill levels and specializations. Aside from the need for computer literacy, employees are pressed continuously to learn new knowledge and skills reflecting the shortening life cycle of goods, and have no time to relax. Personnel changes including conversion to different job functions are also frequent. Even regular employees with very short experience after recruitment are assigned the task of directing and managing temporary agency workers and part-time workers. In addition, the shift of industrial

structure to tertiary industries is increasing the number of occasions when workers need to communicate with other people.

Present State of Stress and Mental Health among Workers

Results of survey on stress in the workplace

According to the Worker Health Survey¹ conducted by the Ministry of Health, Labour and Welfare at intervals of 5 years, the percentage of workers feeling stress increased steadily until 1997, but the increase stopped and the percentage in 2002 was similar to that in the previous survey. The leading cause of stress was interpersonal relations in the workplace, followed by the nature and volume of the job. Workers are not given leeway in the workplace and interpersonal relations are aggravating the situation with manpower reduction, increasing workload, and fluidization of organization.

Present state of mental health of workers

The number of suicides in Japan has remained at abnormally high levels exceeding 30,000 for 8 consecutive years from 1999. Nearly half of all cases committed suicide due to economic and livelihood related problems including debts and the hardships of life. This illustrates the continuing struggles of middle-aged and older citizens in the face of economic hardships such as restructuring and unemployment. The high occurrence of suicide among middle-aged and older workers "in the prime of life" is astounding. The close association between suicide and mental disorders is widely acknowledged, and about 70% of workers committing suicide are reported to have depression. Suicide from overwork with underlying depression is prevalent among middle-aged and older workers. Occupational stress arising from chronically long overtime, underachievement of the work quota, etc. is inferred to occur in the background. Please refer to my book² for discussion regarding the suicide of workers.

The background factors to the mental health problems may differ from case-to-case, but these can be divided broadly into increasing stress, weakening support in the workplace and at home, and decreasing the stress resistance of individual workers. Each of these involves serious problems and solutions are not easy to find. In particular, the following issues need to be highlighted.

Middle-aged and older workers who find it difficult to adjust to the times

There are many cases of mental health problems among middle-aged and older workers who find it difficult to adjust to the dramatic changes in industrial structure and workplace environment. Typical changes in the workplace environment result from business reorganization, forcing workers to deal with different products and work in different job functions, and workers suffer from maladjustment in their efforts to perform new assignments. Middle-aged and older workers with declining flexibility and adaptability are failing to cope with the changing times.

Struggling workers in their 30s

Workers who were recruited in the bubble economy era, now in the 35–39 age range, are competing fiercely over the diminished number of managerial posts. After years of friendly non-competitive relationships, they are now competing against colleagues of a similar age. On the other hand, workers in the 30–34 age range, recruited after the collapse of the bubble economy, are unsure what to do before approaching the age limit for a job change. As they were employed at a time when recruitment was extremely restrained, they have little chance of promotion. In the beginning, many of them started their careers against their will in the 'ice age of employment' and are asking themselves whether their choices were right.

Delicate young workers

The number of young workers with mental health problems has been increasing over the last several years. Generally described as being delicate, they develop mental health problems in response to slight problems in interpersonal relations in the workplace or scolding from their superiors as a result of their low resistance to stress. Many young workers have no experience of being scolded, and are scolded in the workplace for the first time in their life. Managers often complain that young workers cannot do things that are not written in manuals, or cannot even do the things that are written in manuals. While young workers were once described as "waiting for directions" (unable to act on their own without directions from superiors), the situation is further changing for the worse. In many cases, young workers are slow to recover after taking a rest, they are vulnerable, and their power of self-healing from traumas is weak.

Mental Health Activities in Industrial Health

Originally, the basic aim of industrial health was to maintain and promote mental and physical health without directly addressing diseases and impairments, and the focus was on primary prevention. However, mental health problems of workers and suicide apparently related to them came to be regarded as a serious social problem in the later half of the 1990s, and this made it necessary to include diseases in the coverage of industrial health. Mental health activities promoted by the national government in the area of industrial health have evolved from the Total Health Promotion Plan (THP) to the Creation of Comfortable Workplaces and then to the Guidelines for Promoting Mental Health Care in Enterprises (Mental Health Guidelines).

THP (1988)

THP is the first government program that paved the way to the present mental health activities in workplaces, and its concept of “mental and physical health building” has proved an outstanding success. The concept is to measure the health status of each person and use the results of measurement for exercise guidance, nutritional guidance, health guidance, and psychological counseling. The aim is the primary prevention of diseases and the maintenance and promotion of health, similarly to the concept of special health examination and special health guidance introduced in 2008 as a measure against the metabolic syndrome. In this respect, industrial health has been a step ahead of community health.

Japan Industrial Safety & Health Association is providing training courses for THP instructors, issuing certificates to persons completing programs. In the field of mental health, the Association is training psychological counselors.

Creation of comfortable workplaces (1992)

The program for the creation of comfortable workplaces aims at improving organizations. The notion of comfort here has two meanings: one is the comfort of the physical environment and the other is the psychological comfort chiefly concerning interpersonal relations in the workplace. This program for the creation of comfortable workplaces and the THP for individual workers

are supposed to work in complementary roles in industrial health. However, these have become somewhat insufficient in dealing with the mental health problems of the present day.

Guidelines for promoting mental health care in enterprises (2000)³

These guidelines were formulated in response to the rapid deterioration of workplace mental health in and after 1990. Following the publication of these guidelines, many companies have come to exhibit much interest in mental health measures, and the number of companies taking action for mental health has certainly increased. Although national public servants are not covered by these guidelines, the essence of the guidelines has been reflected in the mental health measures of National Personnel Authority governing national public servants (see the information on the NPA website, http://www.jinji.go.jp/kenkou_anzen/health_mentalpage.htm). Local government employees are also covered by the guidelines, but they are not under its supervising authority. The guidelines indicate the following four types of care:

- (1) Self-care: While the need for self-care is considered a matter of course, it is often the case that mental health problems may not be addressed relying totally on the self-awareness and self-help efforts of the workers themselves. The awareness of disease is often insufficient, some patients deny the presence of disease, and there are persistent prejudices among some patients and their families against mental problems. Such prejudices must be eliminated through educational activities.
- (2) Line care: This is the care provided by the managers supervising workers in the business organization. It is very important that supervising managers perceive the problems of their subordinates and provide care and support to them. However, managers are in fact too busy to take care of subordinate workers. As the term “game-playing manager” illustrates, managers often have their own work, and are fatigued in all companies. Managers who are supposed to provide care are actually in need of care from higher-up managers. Recent emphasis is therefore placed on the care provided by leader workers under managers.

- (3) Professional care by in-house industrial health staff, etc.: This is care provided by professional staff including industrial physicians, public health nurses, nurses, counselors, health supervisors, and personnel/labor management staff in companies. The teamwork and cooperation between personnel/labor management staff and industrial health staff are extremely important. At present, there are more than 70,000 industrial physicians authorized by the Japan Medical Association. While an increasing number of physicians are choosing a career as industrial physicians, there are few industrial physicians who are conversant with mental health.
- (4) Care by outside resources: The collaboration with outside resources (medical institutions, counseling organizations, etc.) is very important in practical case management, but such collaboration is not sufficient in the present situation. Clinicians in non-industrial settings do not have sufficient knowledge and understanding of industrial health. Training in industrial health for psychiatrists started in 2004. Psychiatrists to take charge of patients have little time to spare and collaboration is often unpaid.

Partial amendment of the occupational safety and health law

In October 2005, a bill amending part of the Occupational Safety and Health Law passed the Diet. This amendment was a measure against the persistently high rates of death and suicide from overwork. It aimed to correct overworking, facilitate early detection of health impairment from overwork, and prompt the patients to seek medical care. Focusing mainly on cardiovascular diseases and mental disorders such as depression, a health screening is offered to persons who are working more than 100 hours overtime per month, feel accumulated fatigue, and want to have an examination. They are advised to seek treatment, if considered necessary.

Guidelines for maintaining and promoting worker's mental health (New Mental Health Guidelines) (2006)⁴

Concurrently with the partial amendment of the Occupational Safety and Health Law, the Mental Health Guidelines were also revised. While these guidelines inherited the basic skeleton of the old

Mental Health Guidelines without major changes, several alterations were made to meet recent needs. The key points are described below.

- (1) The guidelines are now prescribed by law: This is the most important point of the new Mental Health Guidelines. As they are based on law, enterprises are required to follow the guidelines more strictly than before.
- (2) Comprehensive guidelines including from primary to tertiary prevention: It is important that the new guidelines indicate more comprehensive measures than the old guidelines. This amendment marked the completion of the framework of mental health measures in the national policy for industrial health.
- (3) Inclusion in the study agendas of health committees: The amended Occupational Safety and Health Law and the new Mental Health Guidelines emphasize the use of health committees and other relevant organizations. The inclusion of mental health measures in the study agendas of such organizations means that enterprises are required to take effective measures.
- (4) Addition of face-to-face guidance to the tasks of industrial physicians: The amended Occupational Safety and Health Law and the new Mental Health Guidelines added face-to-face guidance to the tasks of industrial physicians. While the methods of interviews in mental health do not differ much from those for psychological and brain diseases, objective findings are scarcer in the case of mental health. Therefore, information obtained during the interview should provide the basis for judgment regarding immediate action for the relevant worker.
- (5) Reference to cooperation with families: The support from family members to workers is extremely important. It is often the case that there are stress factors at home and the support in the workplace alone may not be effective. It is important to consider how to obtain support from families and how to cooperate with families, and the new guidelines refer to the support from families.
- (6) New designation of in-house mental health promoters: The new guidelines newly provided for the designation of in-house mental health promoters. Public health nurses, nurses, health supervisors, health promoters, etc. are supposed to take charge of this role. When

outside resources are used, each enterprise needs to have a division and persons taking charge of appropriate management of outside resources. Please refer to my book⁵ for detailed discussion.

Problems of Mental Health Measures in Workplaces

There are many problems, a few of which are discussed below.

There are few mental health specialists among industrial health staff in enterprises.

A lack of specialists with a certain level of knowledge and skills in mental health causes difficulty in promoting mental health measures and performing case management of workers with mental health problems. The solution is either to employ mental health specialists or to conduct appropriate education and training of existing industrial health staff.

Physicians used as outside resources lack sufficient knowledge and understanding of industrial health.

The physicians should have a certain level of knowledge and understanding of industrial health. In addition, it is ideal if they have a grasp of the present situation of the workplace of referred workers, including industrial health systems and workplace culture. In the background of this problem is the undesirable habit of enterprises not paying for physicians collaborating with enterprises. Expansion and enrichment of under-

graduates and continuing education in industrial health is needed.

Non-specialists are entering the market, seeking business opportunities in workplace mental health measures.

Workplace mental health measures are aimed at protecting the safety and health of workers, and even their lives in the case of problems that may lead to suicide. Despite this fact, many unqualified firms are operating in this field, considering it a business. To improve this situation, physicians with specialist knowledge and skills should work with the managers and personnel officials of companies to ensure that they have correct understanding of mental health, and should appropriately lead mental health activities in workplaces.

Conclusion

A major cause of mental health problems among workers is the dramatic change in the environment around them. This is a global problem, and a radical solution to this problem is extremely difficult to find. Mental health problems tend to occur more frequently in workplaces where interpersonal relations are unsound or thin. Sufficient support in the workplace and at home helps workers to cope with such problems. The mainstays of mental health measures are the controlling of overwork and the establishment of a support system. It is also important to secure human resources that play key roles in the promotion of mental health measures.

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Japanese Encephalitis Vaccine

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Abstract

Throughout each year of the 1960s Japan had several thousand patients with Japanese encephalitis. In 1954, the national government began to take extensive measures aimed at susceptible individuals by administering an inactivated Japanese encephalitis vaccine. The number of patients decreased to less than 10 per year in and after 1992. After 1990, the genotype of the prevalent strain changed from the previous type 3 to type 1. The decrease in the number of patients may be attributable not only to the efficacy of routine vaccination in children under the Immunization Law but also to the influences of changing lifestyle and environment. The rate of seroconversion from negative to positive results in pigs, the animal in which the virus is amplified, remains high every year. The government suspended its aggressive recommendation for Japanese encephalitis vaccination in May 2005, soon after a 14-year-old patient with severe acute disseminated encephalomyelitis that was linked to a booster inoculation of Japanese encephalitis vaccine was recognized as resulting from the vaccine. Over the subsequent 3 years, the numbers of susceptible children have been accumulating. A new type of inactivated Japanese encephalitis vaccine produced using a culture cell line (Vero cells) has been developed to replace the current vaccine that is produced using the mouse brain, and a clinical trial of this vaccine is now underway. When this vaccine is approved, the national government intends to resume its recommendation of the vaccination. The new vaccine is expected to be approved in 2009.

Key words Japanese encephalitis, Japanese encephalitis vaccine, Acute disseminated encephalomyelitis, Tissue-cultured vaccine

Introduction

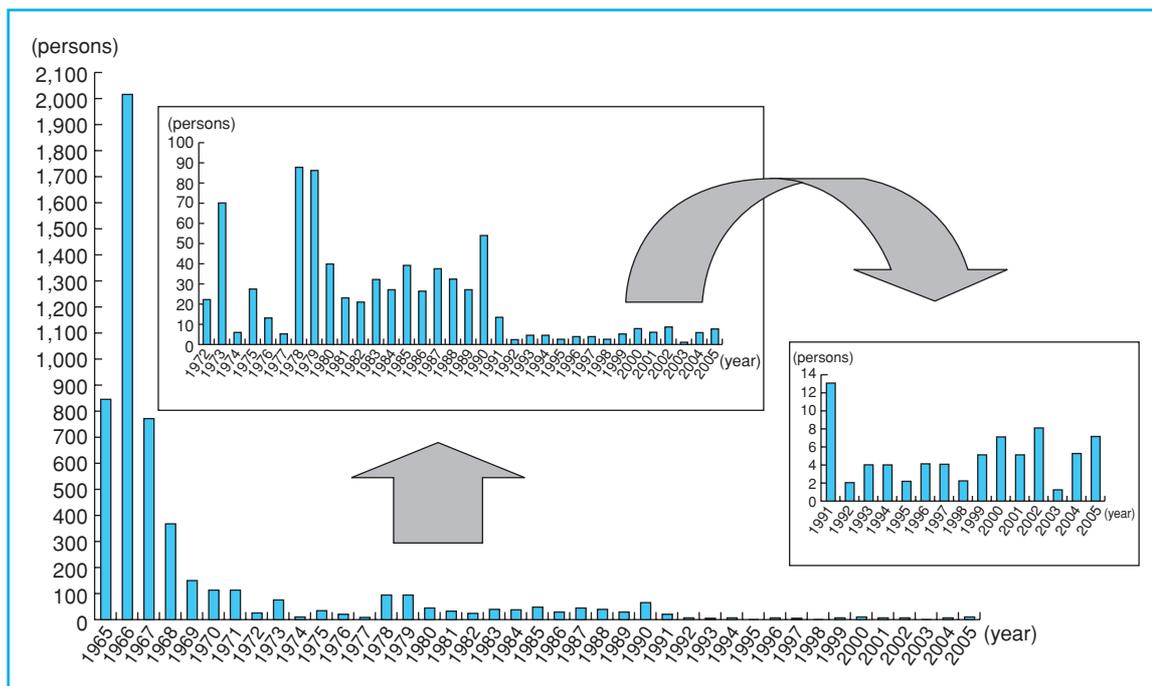
In Japan, several thousand patients were affected by Japanese encephalitis every year during the 1960s. However, since 1992, the number of patients per year has remained at fewer than 10 (Fig. 1).¹ The Japanese government discontinued its aggressive recommendation of the current Japanese encephalitis vaccine in May 2005, and abandoned the third stage of the routine vaccination program in July of the same year.² A new tissue-cultured inactivated vaccine, which was expected to appear soon, is not yet available. The current status and future prospects of vaccination against Japanese encephalitis will be described below.

Japanese Encephalitis and Its Virus

Although the incidence of symptomatic Japanese encephalitis is low, and there is no human-to-human transmission, it is a severe disease that causes death in 17% of those affected and sequelae in 48.5% of patients, according to the Japanese statistics.³ The virus, which is amplified in pigs, is transmitted to humans by the mosquito *Culex tritaeniorhynchus*. The positive conversion ratio for the antibody is high every year, particularly among pigs in western Japan, reflecting a substantial presence of the virus in this country.² Recent isolates include a new type I as well as the conventional type III.^{4,5} The recent marked decrease in the number of patients with this infection seems to be largely attributable to the decreased

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(Cited from Taya K, et al. Pediatrics of Japan 2006;47:289–295)

Fig. 1 Reported number of patients with Japanese encephalitis
From Infectious Diseases Weekly Report. The figure for 2005 is provisional.

exposure to the virus resulting from social factors, including a decrease in the *Culex tritaeniorhynchus* population, a marked decrease in piggeries, and the spread of air conditioners, as well as the effect of preventive vaccination.¹

Withholding of Aggressive Recommendations for the Current Japanese Encephalitis Vaccine and the Abolition of Third-stage Inoculation

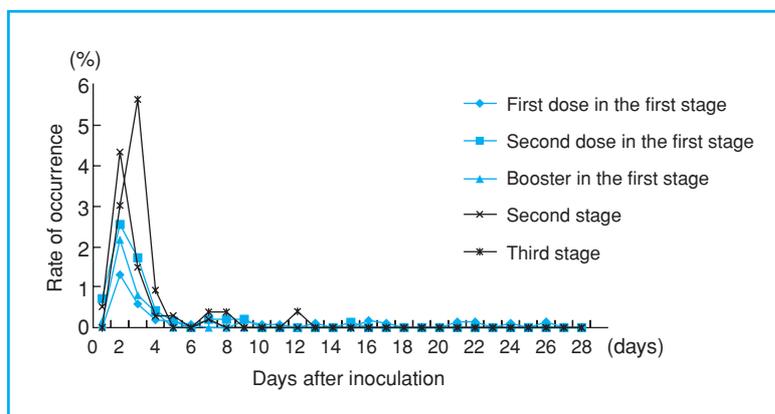
The Japanese government issued a notice on May 30, 2005, that its aggressive recommendation of the current Japanese encephalitis vaccine be withheld, following the fact that the Ministry of Health, Labor and Welfare affirmed a causal relationship between the Japanese encephalitis vaccine and severe cases of acute disseminated encephalomyelitis (ADEM) occurring after third-stage (age of 14–15 years) inoculation of the vaccine. The government explained that its decision was made in consideration of the following factors. Japanese encephalitis currently occurs in only a few persons of advanced age annually, shows hardly any incidence in children, and has

the attributes of personal immunity rather than mass immunity. In all, 13 cases (including 4 severe cases) of ADEM have been recognized as a result of the vaccination since 1991, and the severity of these cases should be noted.

In addition, the government discontinued third-stage inoculation of Japanese encephalitis vaccination on July 29 of the same year. This act was based on the fact that there were almost no patients in the late teens despite the fact that the vaccination rate for the third stage was only 50%. Japanese encephalitis vaccines may be given to children as if requested at both the first stage (6 months to less than 90 months after birth) and the second stage (9 years to less than 13 years) in the form of routine vaccinations if their guardians provide consent based on thorough information. However, currently, these vaccinations are seldom undertaken.

Efficacy and Adverse Effects of the Vaccine

The Japanese encephalitis vaccine currently available is produced by inactivation and purifi-



(Report of the results of a survey on health status after preventive vaccination, by the Ministry of Health, Labor and Welfare)

Fig. 2 Local reaction after inoculation of the Japanese encephalitis vaccine (fiscal 2003)

Table 1 Reported adverse reactions after Japanese encephalitis vaccination

	Total	Within 24 h	1–3 days	4–7 days	8–14 days	15–28 days	29 days or more
Total	825	611	153	26	17	14	4
1 Immediate systemic reaction	252	224	26	1	1		
1A Anaphylaxis	122	119	3				
1B Generalized urticaria	130	105	23	1	1		
2 Encephalitis, encephalopathy	32	1	7	9	6	7	2
3 Convulsion	45	27	11	2	4	1	
4 Motor dysfunction	3	1				2	
5 Other neurological disorders	25	14	3	5	2	1	
6 Abnormal local swelling	12	10	2				
7 Generalized eruption	44	30	13				1
8 Fever of 39°C or more	161	107	48	3	3		
9 Other abnormal reactions	65	56	6	1		1	1
10 Unrelated cases	186	141	37	5	1	2	

[Ministry of Health, Labor and Welfare report of adverse reactions after vaccination (fiscal 1996–2004)]

cation of the virus, using mouse brains infected with the virus (Beijing strain).⁵ This vaccine achieved an efficacy rate of 81–91% in large-scale field trials carried out in Taiwan and Thailand. A historical review of changes in the preventive

vaccination policy, the amount of vaccine supplied, and the incidence of patients by age also demonstrated the efficacy of the vaccine.⁶ At least three inoculations of the currently available vaccine seem to allow the persistence of the neu-

Table 2 Incidence of ADEM after Japanese encephalitis vaccine

	Stage of routine vaccination (age)	First stage (3–7)	Second stage (9–12)	Third stage (14–15)	Total
No. of reported cases of ADEM	1994–2006 (13 years)	14 1/3 million	1 1/10 million	6 1/1.2 million	21 (1/2.6 million doses)
No. of recognized health hazard cases of ADEM	1989–2006 (18 years)	10 1/5 million	0	6 1/1.8 million	16 (1/4.8 million doses)
Annual No. of inoculations		2.8 million	0.8 million	0.6 million	4.2 million doses

* No. of inoculation and incidence of ADEM are round numbers.

(National Institute of Infectious Diseases. Infectious Disease Surveillance Center)

tralizing antibody at a level 10-fold the protective antibody level.⁷

A common adverse effect is local reactions, whose incidence increases with increased numbers of inoculations. The incidence of immediate general reactions decreases, and the incidence of local reactions decreases by half, by removing, reducing, or replacing the additives gelatin and thimerosal (Fig. 2).⁸

ADEM occurs relatively frequently in children. This condition is an acute, transient encephalitis characterized by demyelination of the central nervous system following viral or bacterial infection or vaccination. Several surveys conducted by a Research Group of the Ministry of Health, Labor and Welfare^{9–12} revealed that ADEM in children occurs at a mean age of 6–7 years, is slightly more frequent in boys, shows no clear seasonality, and has a relatively good vital prognosis. Patients with post-infectious ADEM account for about 70% of all patients. The annual incidence is 0.33–0.64 per 100,000 children 15 years of age or younger, and the total number of patients per year is estimated at about 60–100.

Table 1 shows the reported cases of adverse reactions to Japanese encephalitis vaccination (there might be erroneous inclusions because no definite causal relation was required) during the 9-year period between fiscal 1996 and 2004.¹³ The 32 cases of encephalitis or encephalopathy are shown in the table. Based on the total number of vaccinees, the incidence of reported ADEM is approximately one per 2,600,000 inoculations, and the incidence of a recognized health hazard is less than one per 4,000,000 inoculations (Table 2). Since there is a wide variation in the period from

inoculation to onset among individual cases, it is difficult to identify any causal relationship. According to an analysis of the relationship between the number of vaccinees at each stage of vaccination and reported cases of encephalitis or encephalopathy, the risk of ADEM (including erroneous cases) is likely to be high in children in the third stage (Table 2).

Current Status of Tissue-cultured Vaccine Development

When the national government halted aggressive recommendation of the current Japanese encephalitis vaccine, it stated that recommendation of Japanese encephalitis vaccination was slated to be resumed when the development of a presumably safer tissue-cultured vaccine became available and its supply secure. The current vaccine is highly purified, and is considered to have only a trace amount of myelin basic protein. Therefore, there is no definite evidence that the brain tissue component is the cause of ADEM following vaccination. However, the current vaccine is necessarily subject to theoretical concerns and discussions of its responsibility for causing ADEM as long as infected mouse brains are used as the source.

Much is expected from the development of a tissue-cultured Japanese encephalitis vaccine, which would preclude contamination by unknown pathogens, protect the rights of animals, and secure a steady supply.¹⁴ At present, two domestic companies are applying for approval of tissue-cultured inactivated vaccines produced using Vero cells. These vaccines achieve a favorable

increase in antibody titer, but can cause rather frequent local reactions, requiring additional clinical trials. It seems that one or a few more years will be required before a tissue-cultured vaccine becomes commercially available.

Long-term Effects of Discontinuation of Japanese Encephalitis Vaccination

To examine the long-term effects of discontinuation of the third stage of vaccination and suspended aggressive recommendation of the first and second stages of vaccination, it is necessary to observe the trend of the virus among pigs and transmitting mosquitos, the pathogenicity of wild strains of the virus, antibody prevalence by locality and age group, occurrence of acute encephalitis or meningitis of unknown etiology, and the overall trend of patient infection throughout Asia.

Since the infection rate is low (an annual infection rate of 0.07% among young children, estimated from the results of preinoculation serum antibody test in participants in clinical trials of tissue-cultured vaccines), a lack of Japanese encephalitis vaccination may not cause an instant, sharp increase in pediatric patients. However, it is well known that about one million susceptible children accumulate each year. The risk of infection should increase gradually among individuals of age groups characterized by increased outdoor activities during the evening hours in summer and autumn. As a result of these circumstances, the Japan Pediatric Society submitted a written inquiry and demand to the Japanese government in July 2006, inquiring as to how the government plans to address these issues in the future (see the home page of the Society: <http://www.jpeds.or.jp/saisin-j.html>). On August 31 of the same year, the Japanese government gave notice to local governments that they cannot refuse to provide routine vaccination against Japanese encephalitis to children if their guardians request such vaccination, even though the aggressive recommendation for Japanese encephalitis vaccination remains suspended. Readers are referred to a related document, an explanatory leaflet about the Japanese encephalitis vaccine, because the Japanese government's view on Japanese encephalitis and ADEM is expressed in the leaflet.

Since the advent of a new vaccine is being delayed, some doctors, particularly those in clinical practice in areas showing a high prevalence of the virus, have begun to recommend inoculation of the current vaccine again, going beyond the position of the national government. There is no doubt that attaining basic immunity lowers the risk of developing Japanese encephalitis. It is hoped that the Japanese government will take measures to relieve individuals who exceed the target age of routine vaccination during this period of discontinuation of the aggressive recommendation. Vaccination against Japanese encephalitis (primary or booster inoculation) is desirable before traveling or residing overseas because tens of thousands of individuals are affected every year in Southeast Asia, China, India, and other countries.¹

Relation with West Nile Fever

The virus responsible for West Nile fever/encephalitis, whose epidemics have been seen in the US since 1999, belongs to the Flavivirus family, together with the Japanese encephalitis virus. These viruses are closely related to each other from the antigenic aspect, and both are classified as belonging to the Japanese encephalitis serotype group. The infection cycle of the West Nile virus is maintained by birds and mosquitos. *Culex tritaeniorhynchus* may be the major transmitting mosquito in Asian areas. It is possible that an epidemic of this infection could spread to Japan through birds flying here from Southeast Asia. Although the results of some animal experiments suggest that the Japanese encephalitis vaccine has a preventive effect against this infection, a West Nile virus vaccine seems to be necessary from a practical viewpoint.

Conclusion

There is an urgent need to collect scientific information about epidemics in Asian areas, including Japan, to examine seroepidemiology, virus prevalence among pigs and transmitting mosquitos, viral variation (genotype and pathogenicity), and the efficacy and safety of a new vaccine. It will be desirable to reconstruct vaccination strategies based on such information.

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Current Status of Vaccination in Japan and the World: A pediatrician's point of view

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Abstract

This paper discusses the variety of currently available routine vaccinations in Japan in comparison with those of other countries. According to materials from the World Health Organization, routine vaccines commonly available in developing countries include BCG, live polio, DPT, and measles vaccines. Vaccination in Japan is similar, except that a combined measles and rubella vaccine is used instead of the measles vaccine. In some developing countries, hepatitis B vaccine and Haemophilus influenza type b vaccine are already in routine use. To reach the level of other industrialized countries, routine vaccination in Japan should include these two vaccines as well as inactivated poliovirus, MMR, pneumococcus, influenza, and varicella vaccines.

Key words Vaccination, Children, Newly introduced vaccine, EPI

Vaccination and the World Health Organization (WHO)

Vaccination is the most powerful means of preventing infectious diseases. Although the era of infectious diseases was once thought to be over, no one currently believes that this is true. In recent memory, potential threats of bioterrorism with smallpox virus have been made, and the production of smallpox vaccine has been resumed to create an adequate stockpile.

Most vaccinations have the attributes of both personal and herd immunity. Vaccination is not only a welfare project for children but also an issue of national security. Because of this background, the system of vaccination is peculiar to each country.

Vaccination is often implemented as a national project. In developing countries, where the national budget is relatively limited, there may be restrictions on vaccination. However, an inadequate vaccination system may become a substantial obstacle to the maintenance of children's health.

In fact, many children in developing countries are dying from infectious diseases that are seldom observed in industrialized countries. With the primary objective of saving as many of these children's lives as possible, WHO and the United Nations Children's Fund (UNICEF) are primarily supporting countries that find it financially difficult to promote vaccination. As part of this activity, the Expanded Programme on Immunization (EPI) was inaugurated by WHO in 1974.

EPI Vaccines

EPI initially designated six kinds of vaccines (diphtheria, pertussis, tetanus, polio, measles, and BCG) as those that should be given to children throughout the world, and activities that disseminated and assisted inoculations were facilitated. Aware of the importance of disease prevention, WHO urged in 1992 that the routine use of hepatitis B vaccine be introduced to every nation in the world by 1997. WHO also recommended in 1998 that the Haemophilus influenza type b (Hib)

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vaccine, which has a potent preventive effect, be introduced as a routine vaccination whenever economically feasible.

Vaccination in Developing Countries

The State of the World's Vaccines and Immuniza-

tion¹ issued by WHO in 2003 has an annex that presents a typical routine vaccination schedule for infants in developing countries (Table 1). A note to the table states that developing countries in Africa, where yellow fever epidemics occur, are assumed in the table.

Table 1 shows that all initially designated EPI

Table 1 A national immunization schedule for infants in developing countries

Vaccine	Age				
	Birth	6 weeks	10 weeks	14 weeks	9 months
BCG	×				
Oral polio	×*	×	×	×	
DPT		×	×	×	
Hepatitis B†		×	×	×	
Haemophilus influenzae type B†		×	×	×	
Yellow fever					×**
Measles					×***

* In epidemic countries.

** In countries where yellow fever poses a risk.

*** In addition, a second opportunity to receive a dose of measles vaccine should be provided for all children. This may be done either as part of the routine schedule or in a campaign.

† Only a few African countries have been able to introduce the vaccines to date.

[Reproduced from WHO: State of the World's Vaccines and Immunization. 2003;88–89 (Annex 3)]

Table 2 A national immunization schedule for infants in industrial countries

Vaccine	Age							
	Birth	1 month	2 months	3 months	4 months	5 months	6 months	+ 1 year ^{*5}
BCG ^{*6}	×							×
Hepatitis B	× ^{*1}	×			×		×	
DTP			×		×		×	
Hib			×	×	×			
Polio OPV/IPV			OPV/IPV	OPV/IPV	OPV		IPV	
Measles, MMR								×
Pneumococcal			×		×		×	
Other vaccines ^{*2}								
- Influenza ^{*3}							×	
- Varicella								×
- Hepatitis A ^{*4}								variable

*1 Given with HBIG if mother is HBsAg-positive.

*2 Only used by some countries, and frequently only for selected populations.

*3 Generally only given from 6 months of age to high risk selected infants annually.

*4 Generally only given to high risk selected infants in the first year of life.

*5 Variable additional doses of these vaccines are scheduled as boosters during the next two decades.

*6 BCG is administered in certain industrialized countries, but to widely differing ages and in varying numbers of doses.

[Cited from WHO: State of World's Vaccines and Immunization. 2003;88–89 (Annex 3)]

vaccines (BCG, polio, DPT, and measles) are covered. The recommended age of infants at immunization is generally low, probably to reflect the existing situation in which the risk of morbidity is substantial. This also should be true for measles vaccine, for which the recommended age is 9 months. Hepatitis B vaccine and Hib vaccine are also included for the aforementioned reason. Yellow fever vaccine is included because countries that have epidemic Yellow fever are assumed for this table.

In actuality, many African nations provide vaccination according to an immunization schedule similar to that of this table.² Since many African nations provide vaccination under the support of WHO and other organizations, it seems that they have reasonably similar vaccination programs that are in accordance with the recommendations of WHO rather than having individual vaccination programs.

Vaccination in Industrialized Countries

Table 2 shows a typical routine vaccination schedule for infants in industrialized countries, which is also given in the annex to the State of the World's Vaccines and Immunization.¹ All EPI vaccines, i.e., BCG, polio, DPT, measles, hepatitis B, and Hib vaccines, are included.

When compared with Table 1, one can notice that the recommended ages of infants at immunization with DPT, polio, and Hib vaccines are slightly higher than those in developing countries. This is probably because the schedule reflects a different situation of epidemics of these infections.

The use of inactivated polio vaccine, rather than live vaccine, also represents a major difference from Table 1. This is a policy paralleling the currently continuing eradication program of

polio. According to 2005 WHO data, 38 nations in the world were using inactivated polio vaccine.

Measles vaccine is recommended for 1-year-old or older infants, because major emphasis is placed on improvement of the efficacy rate of the vaccine rather than prevention of infection before 1 year old. Another major difference from developing countries is that the use of MMR (measles, mumps, rubella) vaccine instead of measles vaccine is predominant among industrialized countries.

In addition to these WHO-recommended vaccines, pneumococcus vaccine, influenza vaccine, varicella vaccine, and hepatitis A vaccine (variable) are listed in Table 2. Although the use of hepatitis A vaccine is not universal because of the varying situation of epidemics among different countries, other vaccines are commonly regarded as routine vaccines for children in industrialized countries. Incidentally, the pneumococcus vaccine referred to here is a protein-conjugated polysaccharide vaccine of the next generation, unlike the one currently used in Japan. The other three vaccines have already been approved for voluntary vaccination in Japan.

Vaccination in Japan

The current routine vaccination schedule (as of 2006) for infants in Japan is shown in Table 3, in the same format as Tables 1 and 2. There are distinct differences between the Japanese vaccination schedule and the typical routine vaccination schedule for an industrialized country shown in Table 2. Comparison with the typical routine vaccination schedule for a developing country shown in Table 1 shows little difference apart from Japanese encephalitis vaccine and yellow fever vaccine.

Table 3 National immunization schedule for infants in Japan

Vaccine	Age				
	Birth	3 months	6 months	9 months	+ 1 year
BCG		×			
Oral polio		←————— (twice) —————→			
DPT		←————— (3 times) —————→			×
Japanese encephalitis					(4 times)
MR					×

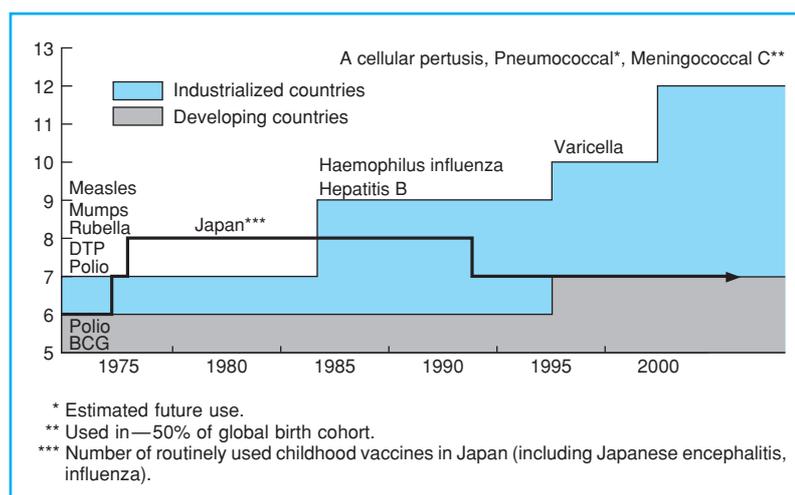
The Japanese schedule is advantageous only in that MR vaccine is used instead of measles vaccine, and is comparable in other aspects to the vaccination schedule used in developing countries. Hepatitis B vaccine and Hib vaccine are not given in Japan, although they are provided in some developing countries. How long vaccination in Japan has been in this improbable situation?

Differences in the Introduction of New Vaccines

Figure 1 presents data on the number of routine vaccines for children in Japan (bold arrow) added to Figure 3 from “3. Gaps in access to new

vaccines”³ in the State of the World’s Vaccines and Immunization. This figure shows routine vaccination in industrialized countries (probably centering on the USA) in and after 1975 and the trends in introducing vaccinations in developing countries.

As is clear from Fig. 1, Japan had a worldwide lead in the variety of routine vaccines given until about 1985, among which the use of influenza vaccine and Japanese encephalitis vaccine were contributory. In the late 1980s, Japan fell from its high ranking, reaching nearly the level of the developing countries in the late 1990s. Considering the fact that immunization with Japanese encephalitis vaccine currently is virtually suspended



[Adapted from WHO: State of the World’s Vaccines and Immunization. 2003;7 (Fig. 3)]

Fig. 1 Number of childhood vaccines routinely used in developing and established market countries

Table 4 Indicators of achievements—Tenth Departmental Expected Result (WHO Strategic Plan 2006–2009)

Indicator	Status 2005	Target for end 2007	Target for end 2009
Number of countries that achieved >90% first dose measles coverage	97/192	125/192	144/192
Number of countries that have implemented a second opportunity for measles immunization within the preceding 5 years	168/192	182/192	192/192
Number of countries that have introduced Hepatitis B vaccine in infant immunization schedules	153/192	185/192	192/192
Number of countries that have introduced Hib vaccine	92/192	105/192	125/192

(Cited from WHO: Immunization, Vaccines and Biologicals: Strategic Plan 2006–2009. 2005;26)

because of associated adverse effects, the line in the figure representing the use of vaccines in Japan in and after 2005 may well be even lower.

Future Vaccination in Japan

Finally, Table 4 introduces goals for improving the implementation rate of routine vaccination extracted from Table 10⁴ in “Immunization, Vaccines and Biologicals: Strategic Plan 2006–2009” issued by WHO in 2005. Presumably, Japan has achieved the first goal of a measles vaccination rate >90%. Another goal, implementation of the two-vaccinations strategy for measles vaccine was achieved as late as June 2006, behind most other countries in the world. The existing situation is that the goals for hepatitis B vaccine and Hib vaccine are unlikely to be achieved by 2009.

Thus, the vaccination system for children in Japan has lagged far behind the rest of the world during the past two decades. There are, of course, other countries that lag behind in vaccination, but the reason is usually economic. At present, financial difficulties, if any, can be solved to some extent with support from UNICEF or other aid organizations. In actuality, a number of developing countries have a more advanced system of vaccination than Japan. The vaccination system in Japan is less advanced probably for reasons other than economic ones, and therefore the issue appears complicated and difficult to solve.

It would be desirable for the sake of Japan’s children that the routine vaccination system of the country reach the level of other industrialized countries in the world as soon as possible.

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Perspective on Current Vaccination Policy in Japan

JMAJ 51(3): 186–190, 2008

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Abstract

It has been approximately half a century since the current preventive vaccination program was set up in Japan. Initially, this program covered smallpox, typhoid, paratyphoid, diphtheria, pertussis, and some others. Since then, the diseases targeted by the vaccination program have been altered according to changes in patient infection and technological development, and have contributed substantially to a progressive decline in the incidence of infectious diseases. On the other hand, a relief system for adverse effects of vaccination was legislated as a result of increased awareness of human rights and issues pertaining to adverse reactions, with the result that receiving vaccinations was changed from a compulsory obligation to an individual decision, representing a great change in the preventive vaccination program in Japan.

Under these circumstances, a two-dose schedule of vaccination with a measles-rubella combination vaccine was introduced in April 2006. It is expected that this vaccination schedule will help enhance mass immunity against the two diseases, creating a giant step toward the goal of eliminating measles by 2012. It would be desirable to further promote governmental action in the area of preventive vaccination in response to the actual status of infectious diseases, including the introduction of inactivated polio vaccine and the promotion of its use in the form of a combination vaccine, defining policies for the use of combination vaccines in patients infected with at least one of the target diseases of the combination vaccine, and developing a pandemic influenza vaccine.

Key words Infectious disease, Laws, Preventive vaccination, Measles-rubella combination vaccine

Introduction

It has been approximately half a century since the introduction of the current program of preventive vaccination, which has become a principal pillar of infection control. During this period, vaccination has contributed greatly to the decreased occurrence of infectious diseases in Japan. On the other hand, the preventive vaccination program has resulted in increased awareness of human rights and issues regarding adverse reactions. This paper introduces changes in the preventive vaccination program to date, addresses recent topics in the field, and discusses government-sponsored actions regarding preventive vaccination in Japan.

History of the Preventive Vaccination Program

The Preventive Vaccination Law was promulgated in Japan in 1948. The initial vaccination initiative was compulsory, and failure to comply carried penalties because halting the spread of infectious diseases was strongly needed at that time, when a large number of infectious cases were occurring.

Later, as the number of patients with infectious diseases decreased, health hazards caused by preventive vaccination became a social problem following various accidents in smallpox vaccination in the latter half of the 1960s. Therefore, a system was legislated to relieve injury to health caused by vaccination, and the penalty for failure

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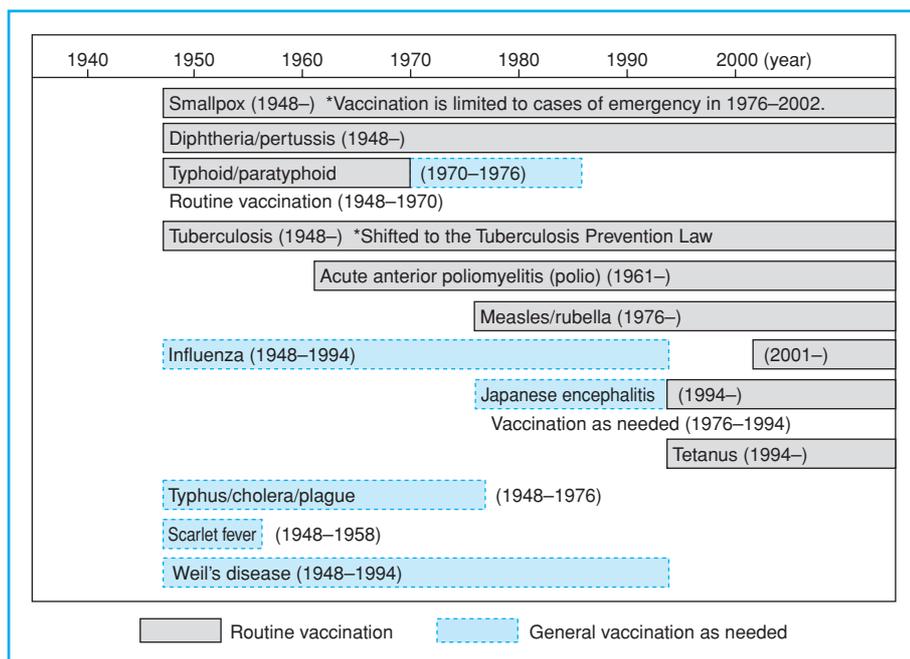


Fig. 1 Target diseases of the Preventive Vaccination Law

to be vaccinated was abandoned except in cases of emergency.

In addition, while the number of patients with infectious diseases was decreasing markedly, a judicial ruling was handed down in regard to collective lawsuits concerning adverse reactions to vaccination, and the Preventive Vaccination Law was amended in 1994 to make vaccination a matter of individual choice, thereby respecting the decision of the person or guardian as to whether or not to be vaccinated (each person is obliged to make an effort to be vaccinated).

The target diseases initially covered by the Preventive Vaccination Law included smallpox, typhoid, paratyphoid, diphtheria, and pertussis. Subsequently, the target diseases were altered according to the current status of infections that were prevalent and the development of vaccine technologies. The transition of the target diseases from the initiation of the vaccination program to the present day is shown in Fig. 1. The target diseases as of April 1, 2006, were diphtheria, pertussis, acute anterior poliomyelitis (polio), measles, rubella, Japanese encephalitis, and tetanus—all Class 1 diseases—and influenza, a Class 2 disease, specified by amendment of the Law in 2001. Vaccination of Class 2 diseases is left up to individual

decision, with no obligation imposed.

Revision of the Measles and Rubella Vaccination Program

Introduction of the two-dose measles-rubella combination vaccine

Two-dose vaccination with a dried, attenuated live measles-rubella combination vaccine (MR vaccine) was introduced on April 1, 2006, to prevent measles and rubella. The major revisions were as follows: 1) the period of vaccination, 12 months or more and less than 90 months after birth, was divided into a period of 12 months or more and less than 24 months after birth (first stage) and a period of one year before entrance into elementary school (second stage); and 2) the vaccines in use were changed from mono-antigen vaccines to MR vaccines.

The two-dose schedule was introduced to achieve enhanced immunity by the second dose in vaccine recipients who failed to acquire immunity after the first dose (primary vaccine failure) or those in whom the immunity acquired with the first dose decreased afterward (secondary vaccine failure). This revision was meant to produce strong mass immunity in individuals who

experienced the first stage of vaccination under the new vaccination program.

In determining the vaccines to be used, MR vaccines alone were adopted for the convenience of vaccinees, resulting in an improved rate of vaccination, and lowering the risk of adverse reactions. This enabled us to expect that the particularly low rubella vaccination rate would increase to the level of the measles vaccination rate.

Interval until implementation of the MR vaccination

Revision of the MR vaccination program resulted in individuals who previously were covered by the former vaccination program but not by the new program. Specifically, those who were ineligible included the following: 1) children 24 months old or older who were more than a year away from entrance into elementary school, 2) children who were attending an elementary school at the beginning of the new program, 3) those who were given only one of the two vaccines under the former vaccination program, and 4) those with a history of one of the two diseases.

These individuals were strongly encouraged to receive the relevant vaccination by April 2006, when the new program was to start. As a transitional measure, local governments were asked to apply the same vaccination fee as that of the legal MR vaccination to ineligible 1-year-old children when they failed to receive relevant vaccination by March 31, 2006, and requested MR vaccination after April 1.

Initiation of the second dose of MR vaccine and addition of the mono-antigen vaccine

The decision to introduce the two-dose schedule of MR vaccination from April 2006 was made in July 2005. At that time, vaccination of the second dose was to be initiated after corroborative data on the efficacy and safety of the vaccine among Japanese people had been obtained. Therefore, when the new program began in April 2006, individuals eligible for routine MR vaccination were limited to 1) infants between 12 and 24 months after birth and 2) children who would enter elementary school within 1 year and had not received inoculation of either rubella or measles mono-antigen vaccine.

Collection of corroborative data on the efficacy and safety of the two-dose schedule of MR

vaccination was begun by a Research Group of the Ministry of Health, Labor and Welfare in the Autumn of 2005, and it was determined that the efficacy in terms of the serum antibody titer after the second dose and safety in terms of the incidence of adverse reactions such as fever and eruptions following vaccination were comparable to those of the conventional mono-antigen vaccines.

Therefore, the government ordinance in regard to vaccination was revised again on May 30, 2006, 1) to allow children in the second stage who had a history of vaccination under the former vaccination program to be covered by the second dose of MR vaccine, and 2) to add mono-antigen vaccines as legally assigned vaccines.

These two actions are expected to promote the acquisition of stronger mass immunity against the two diseases and are expected to eliminate measles by 2012, the goal set forth by Japan and other countries in the WHO Western Pacific Region.

Revision of the Japanese Encephalitis Vaccination Program and Discontinuation of This Vaccination

Abolition of the third stage of Japanese encephalitis vaccination

In July 2005, the third stage (given at age 14–15) of Japanese encephalitis vaccination was discontinued. The number of patients with Japanese encephalitis has decreased greatly in Japan. The reported number of patients in the late teens was only one in the past 22 years, although the vaccination rate for the third stage is only about 50%. On the other hand, more than 100 cases of adverse reactions were recognized as having been caused by Japanese encephalitis vaccination between fiscal 1989 and 2004. For these reasons, the third stage of the Japanese encephalitis vaccination was discontinued.

Eliminating aggressive recommendations for Japanese encephalitis vaccination

In May 2005, the Minister of Health, Labor and Welfare recognized that acute disseminated encephalomyelitis (ADEM) following Japanese encephalitis vaccination was caused by the vaccine, based on the fact that opinions regarding the causal relationship between Japanese encephalitis vaccine and severe ADEM were expressed at

the Diseases and Disorders Recognition Review Board of the Ministry of Health, Labor and Welfare. As a result, aggressive promotion of routine Japanese encephalitis vaccination was withheld.

However, Japanese encephalitis vaccines may be given to individuals who strongly wish to receive them after such individuals provide consent based on thorough information regarding its efficacy and adverse effects. If a health hazard occurs after inoculation of the Japanese encephalitis vaccine, and a causal relationship is recognized by the Minister of Health, Labor and Welfare, the case is covered by the health hazard relief system under the Preventive Vaccination Law, in the same manner as previously.

A new type of Japanese encephalitis vaccine produced by the tissue culture method, which has a lower risk of ADEM occurrence, is now under development. When this vaccine is approved and its supply is secured, a conclusion may be drawn as to the policy of vaccination against Japanese encephalitis. Until then, inoculation of the vaccine to individuals who request vaccination will be continued while withholding aggressive recommendations. A notice of such intention has recently been sent to local governments.

Future Perspectives

Introduction of inactivated polio vaccine and promotion of the combination vaccine

Since there is some indication of a worldwide resurgence of poliomyelitis, the continuation of polio vaccination is considered necessary in Japan at this time. Currently, oral live polio vaccine is used. Although the problem is rare, this vaccine has been associated with the occurrence of vaccine-related polio paralysis in vaccinees or their families. Therefore, it is necessary to replace this live vaccine with an inactivated vaccine.

In order to adopt the inactivated polio vaccine, the use of a 4-component combination vaccine against diphtheria, pertussis, tetanus (DPT) and polio is under consideration for the convenience of vaccinees, resulting in an improved rate of vaccination, and lowering the risk of adverse reactions.

Use of the combination vaccine in affected persons

Under the current program of vaccination prescribed by the Preventive Vaccination Law,

persons already affected by a target disease are excluded from subjects eligible for vaccination against the disease in question, in accordance with the provisions of Article 1-2 of the government ordinance. This is based on the following legal and medical reasons: it is not appropriate to recommend vaccination that carries a risk of adverse reactions as an obligation of persons who already have some immunity against the disease.

However, with the promotion of combination vaccines, such as DPT and MR vaccines, it sometimes happens under this provision that individuals affected by at least one of the combined diseases are excluded from coverage of vaccination with the combination vaccine. At the time the MR vaccine was introduced, this issue was solved by temporarily adding mono-antigen vaccines. A similar issue exists for the DPT vaccine. Therefore, to promote the use of combination vaccines in the future, it is hoped that this government ordinance be revised to allow the use of combination vaccines in persons who have been affected by at least one of the combined diseases. Currently, the Research Group of the Ministry of Health, Labor and Welfare is proceeding with the collection of corroborative data.

Revision of the target diseases of the Preventive Vaccination Law

In 2006, the national government lost several lawsuits related to vaccination, such as the measles-mumps-rubella vaccine (3-component combination vaccine) government liability case (April, Tokyo High Court) and the mass vaccination-related hepatitis B government liability case (June, Supreme Court). These adjudications established that obligatory preventive vaccination implemented by the government in healthy individuals (whether compulsory or by choice) requires greater safety than general medical treatments given to patients, and that burden of proof concerning safety is imposed on the national government, but not on the claimant, thereby changing the burden of proof.

Therefore, considering that the rationale of the government's recommendation of preventive vaccination for healthy individuals despite the risk of adverse reactions is a social defense to prevent the spread of infections, the target diseases of the Preventive Vaccination Law should be determined after due consideration of the contagiousness and seriousness of the infectious

disease as well as the efficacy and safety of the vaccine. Among the target diseases of the current Vaccination Law, the designation of tetanus as a Class 1 disease that obligates individuals to make an effort to be vaccinated needs to be reviewed because tetanus is not transmitted between human beings. In addition, in regard to Hib vaccine and pneumococcal vaccine, whose coverage by the Vaccination Law is highly desirable, thorough and careful consideration of the contagiousness and seriousness of the diseases as well as confirmation of the efficacy and safety of the vaccines is required.

Pandemic influenza vaccine

Epidemics of prepandemic influenza (type A, subtype H5N1) were initially restricted to Southeast Asia, but in 2006 patients with this infection were found in both Europe and Africa. Thus, the development of a vaccine to halt the occurrence of pandemic influenza is urgently needed. A clinical study of a vaccine developed using a viral strain (H5N1) isolated in Viet Nam was begun in January 2006. This vaccine is intended to be given to those critical to maintaining social functioning such as healthcare workers, according to the Pandemic Influenza Preparedness Action Plan of the Japanese Government. At present, the selection of eligible vaccinees and the method of vaccina-

tion are under consideration. If this vaccine is approved, it is expected to shorten the development and approval period for a pandemic influenza vaccine that can be made available for the entire nation in the event of an influenza epidemic.

Conclusion

There is no question as to the efficacy of preventive vaccination for the control of infectious diseases. In particular, it is necessary for people to achieve strong mass immunity when serious infectious diseases with strong human-to-human infectivity occur. Thus, expectations for governmental action in the area of preventive vaccination will continue to be high.

However, the implementation of all vaccinations under the Preventive Vaccination Law has limitations, given the increasing emphasis on self-reliance and the fact that judicial judgments on vaccination-related health hazards are available to the public.

It would be desirable for governmental actions in the arena of preventive vaccination to be made on the basis of an understanding of the features of infectious diseases, including the promotion of research on and development of vaccines and the promotion of information on infectious diseases and vaccines among the population.

Combined Measles and Rubella (MR) Vaccine Introduced in Japan

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Abstract

The number of patients with measles in Japan decreased dramatically after the introduction of the measles vaccine, but the epidemic in 2001 mainly affecting infants increased the estimated total number of patients to 170,000–330,000. In response, measles vaccination in 1-year-old infants was encouraged, and the total number of patients was believed to have fallen generally below 10,000 in 2005 and 2006. Later, the combined measles-rubella vaccine (MR vaccine) was introduced to Japan on April, 2006 and the 2-dose regimen using this vaccine at age 1 (first dose) and within 1 year before entry to elementary school (second dose) started in June 2006, providing an effective means to control measles and rubella in the routine vaccination program. This article discusses the background to the introduction of the 2-dose MR vaccination and its significance in Japan.

After the writing of this article, an epidemic of measles occurred mainly affecting young people in 2007. Triggered by this experience, the schedule for measles and rubella routine vaccination in Japan was revised to include supplementary vaccination at ages corresponding to the first year of junior high school and the third year of high school, to be implemented for 5 years from April 1, 2008. With the reinforcement of the first and second vaccination and the introduction of the supplementary vaccination, Japan has taken a step forward to the realization of measles elimination, which the WHO Regional Office for the Western Pacific (WPRO) aims to attain by 2012, and congenital rubella syndrome elimination as well.

Key words Measles, Rubella, Vaccine, MR vaccine

Introduction of MR Vaccine and 2-dose Schedule for Measles and Rubella Vaccination

From April 2006, the partial amendment of the Preventive Vaccination Law introduced a 2-dose schedule for measles and rubella vaccinations and the use of a combined measles and rubella vaccine (MR vaccine) for this purpose, which had been long awaited by many pediatricians and public health professionals in Japan. However, to the disappointment of those who had been working energetically towards measles and rubella control, this amendment was not effective in fully delivering its intended purposes due to various legal limitations and interpretation problems.

Their hopes were not completely in vain, however. The notification released by Ministry of Health, Labour, and Welfare (MHLW) in June the same year removed many such limitations, and the 2-dose measles and rubella immunization virtually started in Japan.

Why Measles and Rubella Immunization Requires a 2-dose Schedule

Measles and the measles vaccine

Measles is an extremely infectious disease and has the potential to cause very severe symptoms. When complicated with pneumonia or encephalitis, it often leads to death. The fatality rate is about 0.1% in developed countries and ranges from several to 30% in developing countries. The

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World Health Organization (WHO) estimates that 530,000 persons worldwide died of measles in just the year of 2003 alone. Even non-fatal cases frequently see complications such as pneumonia, otitis media, and encephalitis develop and about 1/3 of patients with measles develop some form of complications. The measles vaccine is a vital tool to prevent measles, which is a serious disease.

Prior to the introduction of the measles vaccine in 1960s, virtually all children contracted measles and many lives were lost. With the widespread use of vaccines with improved efficacy and safety, a 95% decrease in the number of deaths was achieved by 2003. The goal of global measles control was originally a decrease in the number of patients and reduction in mortality. Later, efforts towards regional measles elimination started, targeting the complete elimination of infection transmission.

Rubella and the rubella vaccine

In contrast, rubella is a disease with basically good prognosis. Although complications such as thrombocytopenic purpura and acute encephalitis develop quite often in cases, the prognosis of such cases is generally good. The most important problem associated with rubella is that of congenital rubella syndrome (CRS), which occurs at a high rate when the primary infection takes place in pregnant women during the early stages of gestation. This may cause a fetal infection, resulting in various symptoms, including birth defects.

The birth defects caused by CRS include congenital heart disease, hearing loss, cataracts, and retinopathy, which may occur in combination or as a single symptom such as hearing loss or visual impairment, which may be difficult to diagnose. Aside from congenital defects, symptoms that may occur in the neonatal period include low birth weight, thrombocytopenic purpura, hemolytic anemia, interstitial pneumonia, and meningo-encephalitis. CRS may also cause conditions such as progressive rubella panencephalitis and diabetes mellitus, both during and after infancy.

There is no virus-specific treatment for CRS. As a means of individual protection, it is important that women receive vaccines to acquire immunity against rubella before getting pregnant. At the level of social protection, the vaccination rate should be kept in high level to prevent a rubella epidemic and minimize the exposure of preg-

nant women to the rubella virus. It has been reported that artificial abortion increases during an epidemic of rubella, reflecting the fear of the possibility of CRS in babies, previously in Japan.

Current coverage of measles and rubella vaccination and the effectiveness in prevention

Measles vaccine is recognized as a vaccine that is necessary for all children in the world (one of the Expanded Programme on Immunization [EPI] vaccines) and has been introduced in most countries. On the other hand, the introduction of the rubella vaccine depends considerably on the economic circumstances of each country. While it is used in 92% of advanced industrialized countries (developed countries), as classified by the United Nations, it is used in only 36% of countries with medium economic development and 28% of developing countries.

Both the measles and rubella vaccines are live, and are reported to have at least more than 95% preventive effects. However, the vaccination proves ineffective in about less than 5% of people (named as primary vaccine failure), who remain susceptible to infection and accumulate in the population. It was once believed that people who received live vaccines and achieved an immune reaction would retain the serum antibodies and cellular immunity for life, because they would acquire immunity very close to that resulting from natural infection. However, it has become clear that a person having acquired immunity may experience gradual waning of immunity after a long absence of antigen stimuli (the stimulation from natural infection ceases when the disease is controlled to a certain extent), particularly in the case of measles (named as secondary vaccine failure).

When immunity has waned, the disease may make an onset unexpectedly, depending on the extent of the waning. Although symptoms are usually mild, the problem is that the patient can transmit a secondary infection to susceptible people, which may be a source of regional outbreak. The same situation is considered to occur with rubella.

Purpose of 2-dose immunization

We would need no special measures, if we sufficed with a certain degree of measles and rubella control and a reasonable decrease in the number

of patients. However, there will always be more people who contract measles and develop severe conditions (both children and adults) and more cases of CRS. If we want to minimize the number of people contracting measles and rubella as far as possible and prevent severe cases and CRS as much as possible, we need to further reinforce measures against these diseases.

One method introduced to achieve that is the 2-dose measles and rubella vaccination. The second dose is given for the following three purposes:

- (1) A person who missed the first opportunity for vaccination and who remains susceptible is given a second opportunity for vaccination and acquires immunity;
- (2) A person having failed to acquire immunity after the first vaccination receives the second vaccination and acquires immunity; and
- (3) A person having acquired immunity but who later becomes susceptible amid waning immunity receives re-stimulation (a booster) to re-establish immunity.

All these are measures targeted at susceptible persons, with the dual meanings of individual prevention to protect individuals from infection on the one hand and the elimination of measles and rubella from society through an increase in the percentage of immunized individuals on the other.

Does the Availability of the Second Vaccination Opportunity Mean that the First Dose May Be Delayed or Missed? (Meaning of 2-Dose Schedule)

For both diseases, vaccination should be given as early as possible (as soon as possible after a child has reached the age of 1 year, for improved safety). If children were left without immunity for an extended period, possible exposure to virus would increase the risk of infection and the onset of disease, notwithstanding the fact that the number of patients has decreased. In the case of rubella, disease onset in children may have significant impacts on adults. Therefore, the basic principle is to ensure the first vaccination and maintain a high vaccination rate, which does not represent any change from the traditional stance. The availability of the second vaccination opportunity does not mean that one may postpone the first vaccination.

Incidentally, the law amendment in April 2006

required that routine preventive vaccination against measles and rubella should be conducted “using an MR vaccine.” This resulted in a serious situation whereby there were no vaccines for routine vaccination that could be given to individuals needing only the measles or rubella vaccine respectively (there is a legal restriction that a person already having had the target disease is not covered by routine vaccination—this in itself is a controversial issue). The notification released by MHLW in June remedied this situation. The single measles vaccine and single rubella vaccine were restored to the list of vaccines able to be used as routine vaccinations, and the problem was generally resolved.

Is the Best Timing for the Second Vaccination the Time before Entrance into Elementary Schools?

If we emphasize (1) and (2) among the above-mentioned three purposes of the second vaccination, the interval between the first and second doses should be as short as possible. However, the goal of (1) can also be substantially achieved through efforts to maintain the vaccination rate of the first dose as high as possible.

On the other hand, the goal of (3) is better achieved if the second dose is given when immunity is likely to wane and approach the minimum effective level. In the case of measles, waning of immunity is reported to begin 5 to 6 years after vaccination at the age of 1 in an environment without natural measles. Some report that a drop below the minimum effective level occurs later in the higher grades of elementary schools. The immunity against rubella persists longer than that against measles. To ensure immunity during child-bearing age, it may be desirable that the second dose ideally be given in the late teens.

However, under present circumstances, the most practical timing to ensure effective provision of the vaccination opportunity is around the time of entrance into elementary schools. Professionals in Japan and overseas generally agree that vaccination later than this would result in a drop in the vaccination rate. In most countries using the 2-dose schedule for measles and rubella vaccination, the second dose is given around the time of entrance into elementary schools.

Why the MR Vaccine Is Used

Minimizing the number of vaccination doses given to a child was an important point considered during the introduction of the 2-dose measles and rubella vaccination. If 4 doses, 2 doses each for each disease, were to be given, the burden on children would be large, as well as the manpower requirement and the cost of vaccination, resulting in a drop in the vaccination rate. A larger number of vaccination doses would also increase the possibility of coincidental diseases that might be confused with a side reaction from the vaccination (so-called coincidental accidents), which might lead to misunderstanding regarding the safety of the vaccination. The MR vaccine was introduced for these reasons.

A question arises here regarding the reason why MMR (measles, rubella, and mumps) vaccine was not introduced. In Japan, the use of the MMR vaccine was discontinued in 1993 because of the frequent occurrence of acute viral meningitis caused by the mumps virus contained in the MMR vaccine. Regrettably, the development of a Japanese-made mumps vaccine, targeting the release of a new MMR vaccine, has since made little progress. It would be too time-consuming were we to wait for the introduction of a Japanese-made MMR vaccine.

A brand of foreign-made MMR vaccine has already undergone clinical trials in Japan, but this vaccine has not yet been introduced into the country due to the high occurrence of fever after vaccination. Another possible option would be a combined vaccine, consisting of a foreign-made mumps virus strain and a Japanese-made measles and rubella virus strains. However, at present, no foreign vaccine manufacturer exists that is willing to export a mumps virus strain singly, and the practical use of such a vaccine is unlikely. Under such circumstances, Japan decided to use the domestically-produced MR vaccine.

Efficacy and Adverse Events of the MR Vaccine

Two companies in Japan produce and market the MR vaccine, which is produced by mixing the conventional measles and rubella vaccines together in the production process. At the drug approval stage, the MR vaccine has been shown

to be effective enough to achieve an antibody positive rate of about 100% for measles and 98–100% for rubella. The adverse events profile is similar to that of conventional single vaccines, including fever in 22–27% and skin rash in 10–22%. No serious adverse events have not been reported so far, and they are considered to be similar to those reported for single vaccines. Post-marketing studies are ongoing.

Global Measles and Rubella Control Measures

Globally speaking, EPI activities are promoted using a vaccination strategy that targets the global control of polio; diphtheria, pertussis, and tetanus (DPT); tuberculosis (BCG); measles; and hepatitis B.

Recent experiences, including the outbreak of measles in the Netherlands and Ireland, the epidemic of rubella in Greece, and the frequent occurrence of CRS have demonstrated that a suboptimal level of herd immunity may allow the resurgence of measles infection and death, as well as CRS. It is considered important to maintain the percentage of immunized individuals at a level of 90–95%. The basic strategy, in the case of measles, is a 2-dose vaccination using a single or combined vaccine (MR or MMR vaccine). The 2-dose measles vaccination had been introduced in 114 countries (as of 2004) and most developed countries use the MMR vaccine. Over 250 million doses of MMR vaccine are used in over 35 countries, recording a high level of safety.

In contrast to measles, countries incorporating rubella into national strategies are mostly developed countries. As mentioned before, the introduction of the rubella vaccine is delayed in countries with poor economic standing.

History of International Measles Control

The 1989 general assembly of the WHO declared the goal of achieving a 90% reduction in measles prevalence and a 95% decrease in measles mortality by 1995 relative to the pre-vaccine era. The World Summit for Children the following year approved the goal of raising the vaccination rate among children to 90%.

The world is divided into six regions under the global WHO policy. With the progress of measles control activities, each of these regions is shifting

from a decrease in measles prevalence to the elimination of the disease itself. In 1994, the Pan American Health Organization (PAHO) set the year 2000 as the target year for the regional elimination of measles, and succeeded in eliminating endemic measles transmission in 2002. In other regions, the European Regional Office (EURO) set 2007 and the Eastern Mediterranean Regional Office (EMRO) set 2010 respectively as the target years for measles elimination.

In contrast to the zero-virus goal of “eradication” pursued for smallpox and polio, “elimination” is defined by the WHO as “a dynamic situation in a large and well-populated geographical area where no endemic measles transmission occurs and where the importation of measles virus does not result in sustained transmission.” This means that any occasional importation of measles does not cause the expansion of secondary and tertiary infections.

The West Pacific Regional Office (WPRO) of the WHO, where Japan belongs, did not have a regional elimination target until 2005, but several countries promoted control measures setting national elimination targets, and achieved the elimination of transmission in each country. In September 2005, the Regional Committee Meeting in the WPRO decided that 2012 would be the target year for measles elimination in this region, following the agreement among Japan, China, and other countries.

Future Measles and Rubella Control in Japan

The introduction of the 2-dose measles and rubella vaccination and that of the MR vaccine in April and June 2006, respectively, made it possible to integrate the measures for measles control and those for rubella control, representing significant progress in measles and rubella control in Japan. However, this amendment has left some problems. The period for which a child can receive routine preventive vaccination against measles and rubella has been shortened, while susceptible individuals older than elementary school age are not covered by routine vaccination and accumulate in society. We need to be aware of the limitations concerning what can be done through routine vaccination conducted based on the law.

In order that the introduction of 2-dose vac-

ination using MR vaccine may be an effective step to achieve the WPRO goal of eliminating measles by 2012, it is necessary to ensure high vaccination coverage for both doses in all age groups. We need the prompt development of a national vaccination strategy, targeting not only morbidity reduction but also measles elimination and CRS eradication. We need to continue our efforts to tackle these diseases, always keeping in mind the essential problems of measles and rubella, despite the fact that they are gradually vanishing.

Addendum:

After the writing of this article, there have been some major developments in the measles and rubella control measures in Japan, as outlined below.

In 2007, Japan experienced an outbreak of measles, which mainly affected young people and caused temporary closure of many high schools and universities. This was pronounced an international problem, as there were cases such as the student who developed measles during an overseas school trip, as well as the elementary school student who developed symptoms during an international sport event and caused secondary and tertiary transmission of infection among local inhabitants.

This outbreak took place when the measles virus that existed in the streets was brought into schools. Students living in group settings in these schools are classified as follows:

- 1) those who had not received measles vaccination and fortunately had not contracted measles (approximately 10%),
- 2) those who had received measles vaccination in infancy but had not acquired immunity (primary vaccine failure; 2–3%), and
- 3) those who had undergone gradual decline of immunity as a result of the lowering of measles prevalence and a lack of opportunities to receive stimulation (secondary vaccine failure; approximately 10%).

The fact that students engage in various activities in various places helped the expansion of the epidemic.

This outbreak of measles posed three problems:

- 1) Infection in individuals without immunity causes severe conditions irrespective of the age of patient, and presents high risks to individuals including the risk of complications.

- 2) Although individuals who have undergone gradual decline of immunity do not develop typical and serious measles symptoms, they can become sources of infection and affect families, friends, neighbors and society as a whole.
- 3) "Elimination" is the common goal pursued in the world. As seen from other countries, the situation in Japan invokes the notion of why a respected country such as Japan should still have measles. Exportation of measles from Japan is actually a great nuisance to other countries, and control measures in Japan are generally considered unsatisfactory.

To solve these problems and to realize measles elimination, which the WHO Regional Office for the Western Pacific (WPRO) aims to attain by 2012, Japan belatedly has started major improvement in measles control measures. The first clear declaration of the need for measles control as a national policy was made in the Minister's Notification "Guidelines for Prevention of Specified Infections Regarding Measles" dated December 28, 2007. These guidelines stipulate the goal of "achieving measles elimination by the fiscal year 2012 and maintaining the condition after

elimination."

In specific terms, the reporting requirements for measles under the Law Concerning Infectious Diseases were amended, and the previous system of reporting from approximately 3,000 pediatric sentinels was changed to the reporting from all physicians covering all cases in Category 5 classes in Infectious Disease Control Law. Similarly, the reporting of rubella cases was also changed to notifiable diseases for the purpose of supporting simultaneous implementation of measures for the congenital rubella syndrome (CRS).

It was also decided that routine vaccination would be conducted at ages corresponding to the first year of junior high school and the third year of high school, to be implemented for 5 years from April 1, 2008, as supplementary vaccination. MR vaccine will be principally used in this program.

With the reinforcement of the first and second vaccination and the introduction of this supplementary vaccination plan, Japan has taken a step forward to the realization of measles elimination, which the WHO WPRO aims to attain by 2012, and CRS elimination as well.

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Hypertension Research in Japan and the Japanese Society of Hypertension

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This article describes the hypertension research (both basic and clinical) conducted in Japan and the issues the Japanese Society of Hypertension (JSH) is trying to solve.

More than 30 million Japanese are classified as having hypertension, defined by a systolic blood pressure of 140 mmHg or more, or a diastolic blood pressure of 90 mmHg or more, or the use of a hypotensive agent. The blood pressure level of the Japanese people has been decreasing steadily after a peak in about 1965. The widespread availability of hypertension therapy is considered to have contributed to this decrease. Stroke, a condition closely associated with hypertension, has also been showing decreases in prevalence and mortality rates after peaking in 1965–1970. In this way, the widespread availability of hypertension therapy may be regarded as a factor in the Japanese being the world's longest living people.

Japan has an excellent health care system based on health insurance programs covering all citizens, which ensures that all patients with hypertension have access to appropriate care. However, the decline in the mortality rate from stroke has slowed in recent years, and the mortality rate from ischemic heart disease is showing a tendency to gradual increase. These changes may be attributed to the increases in the number of people with diabetes and dyslipidemia resulting from the Westernization of eating habits and a lack of exercise in an automobile dependent lifestyle. Comprehensive management of hypertension, diabetes, and dyslipidemia incorporating lifestyle changes is essential to the prevention of cardiovascular diseases.

JSH published guidelines for hypertension treatment in 2000 and 2004 (JSH2000 and JSH2004), and has been organizing educational

seminars on these guidelines to disseminate them among clinicians all over Japan. At present, JSH is working toward issuing new guidelines (JSH2009) in 2009. At the time when JSH2000 was developed, there was very little evidence originating in Japan. The only notable internationally recognized achievement was the epidemiological study in Hisayama Town. Data have later accumulated as a result of several epidemiological studies including the Ohasama Study and the Tanno Sobetsu Study.

Japan has historically been reluctant to conduct randomized intervention studies to evaluate the efficacy of hypotensive agents, partly because of the mass media's perception that such studies would be experiments using patients. However, we are now seeing reports of large-scale randomized intervention studies conducted using patients with hypertension in Japan. This reflects the enthusiasm and efforts of researchers, as well as the people's understanding of large-scale intervention studies. We are now endeavoring to make the best use of the results from these epidemiological studies and large-scale intervention studies in Japan as a source of evidence to support JSH2009.

Japan has long made an excellent international contribution in the basic study of hypertension. For example, many substances involved in blood pressure control were reported by researchers in Japan. More than a century ago, Takamine et al. discovered adrenalin in 1901. Arakawa et al. determined the structure of angiotensin 1 in 1967, and Murakami et al. cloned the cDNA for human renin in 1983. In 1984, Kangawa, Matsuo, et al. determined the structure of the hypotensive peptide ANP, followed by the subsequent determination of the structure of ANP family peptides

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such as BNP and CNP. These achievements have led to the use of ANP in heart failure treatment and BNP in the staging of heart failure. In 1988, Yanagisawa et al. discovered the hypertensive peptide endothelin, and endothelin antagonists are now used in the treatment for pulmonary hypertension. In addition, Kitamura, Kangawa, et al. discovered the hypotensive peptide adrenomedullin in 1993. The discovery of these peptides is revolutionizing the etiology, pathology, and treatment of not only hypertension but also other cardiovascular diseases.

Furthermore, the spontaneously hypertensive rat (SHR), an animal model for essential hypertension produced by Okamoto and Aoki, made a breakthrough in the study of the pathogenesis and pathology of essential hypertension, as well as the development of hypotensive agents. These studies undoubtedly have been making a great contribution to the advancement of hypertension research in the world. With this as the background, the 12th and the 21st Scientific Meetings of the International Society of Hypertension were held in Kyoto in 1988 and Fukuoka in 2006, respectively.

JSH is going to celebrate its 30th anniversary this year. The Society originally started as a gathering of researchers specializing in hypertension, where presentations and discussion of selected themes were given. However, consider-

ing that wider participation is needed for further evolution of JSH, we are now widely inviting presentations from clinicians and co-medical professionals, and welcoming the participation of many interested persons.

The activities of JSH include: 1) holding an annual scientific meeting; 2) issuing the guidelines for hypertension treatment at intervals of several years; 3) co-sponsoring and supporting large-scale intervention studies; 4) issuing *Hypertension Research*, the monthly official journal of the Society in English (the impact factor in 2006 was 3.177); 5) organizing educational seminars across Japan; 6) organizing working groups on such themes as salt reduction, diuretics, home blood pressure monitoring, and the diagnostic criteria for secondary hypertension to discuss appropriating blood pressure evaluation, diagnosis of hypertension, and treatment; 7) promoting educational and outreach programs for the general public through the establishment of the Japanese Association of Hypertension; and 8) promoting international research cooperation through participation in the International Society of Hypertension and China-Japan Joint Hypertension Symposium. Finally, as the introduction of a specialist program was approved by the JSH general meeting last year, we are working hard preparing for the launch of the specialist program in 2008.

Recent Advances in Electronic Endoscopes: Image-enhanced endoscopy

JMAJ 51(3): 199–203, 2008

Hisao TAJIRI,*¹ Hirohumi NIWA*²

Gastrointestinal endoscopy began with the introduction of the gastroscope, which prompted active clinical use of endoscopes in subsequent years. After the gastroscope was introduced, various fiberscopes began to be used clinically. In 1983, electronic videoendoscopes were also developed. Unlike fiberscopes, which directly check light signals, electronic videoendoscopes convert electronic signals into images via semiconductor elements and allow various forms of electronic image processing and analysis.

Recently, it has been demonstrated that narrow band imaging (NBI) (Olympus Medical Systems Co., Tokyo, Japan) is useful in early diagnosis of cancers of the oropharynx, hypopharynx, esophagus, stomach and large intestine.¹ This finding invited many responses not only from Japanese investigators but also colleagues in many other countries, and NBI has been attracting considerable attention amongst academic societies and research organizations. In Japan, the term “special light (observation)” is now used frequently. A succession of similar techniques were later made public and the meaning of the term “special light (observation)” came to have differ amongst academic societies and research organizations. In view of this problem and the necessity of establishing internationally applicable terminology for endoscopy, we propose object-oriented classification as new classification for endoscopic imaging.

Endoscopic imaging is divided into categories: (1) conventional endoscopy (white light endoscopy (WLE)); (2) image-enhanced endoscopy; (3) magnified endoscopy; (4) microscopic endoscopy; and (5) tomographic endoscopy. Image-enhanced

endoscopy is sub-divided into optical, digital, optical-digital and chromoendoscopy methods (Fig. 1). Of all the various image-enhanced endoscopy methods currently available, “special light observation,” a term which has recently begun to be used at meetings of academic societies and research organizations, refers specifically to the optical-digital method.

The optical-digital method of “image-enhanced endoscopy” involves conversion of the optical characteristics of the light used for illumination or imaging with a light source differing in optical characteristics from ordinary white light. This method also involves signal processing within a video processor in a specially designed way to yield enhanced images. This method usually encompasses NBI, auto-fluorescence imaging (AFI) and infra-red imaging (IRI).

Light penetration can be restricted to surface layers using a blue filter from amongst the spectral transmittance of the three Red, Green and Blue (RGB) optical filters used in sequential framing to create a narrow band that cuts long wavelengths. With NBI, the central wavelength is optimized at 415 and 540 nm, corresponding to the wavelengths most intensely absorbed by blood and those showing intense reflection and scattering at the mucosal surface. Using a narrow spectrum range, the objective of this method is to emphasize fine mucosal structures and mucosal microvasculature on the gastrointestinal (GI) tract surface.

A study using magnifying endoscopy combined with the NBI system has shown that microvascular patterns of superficial depressed

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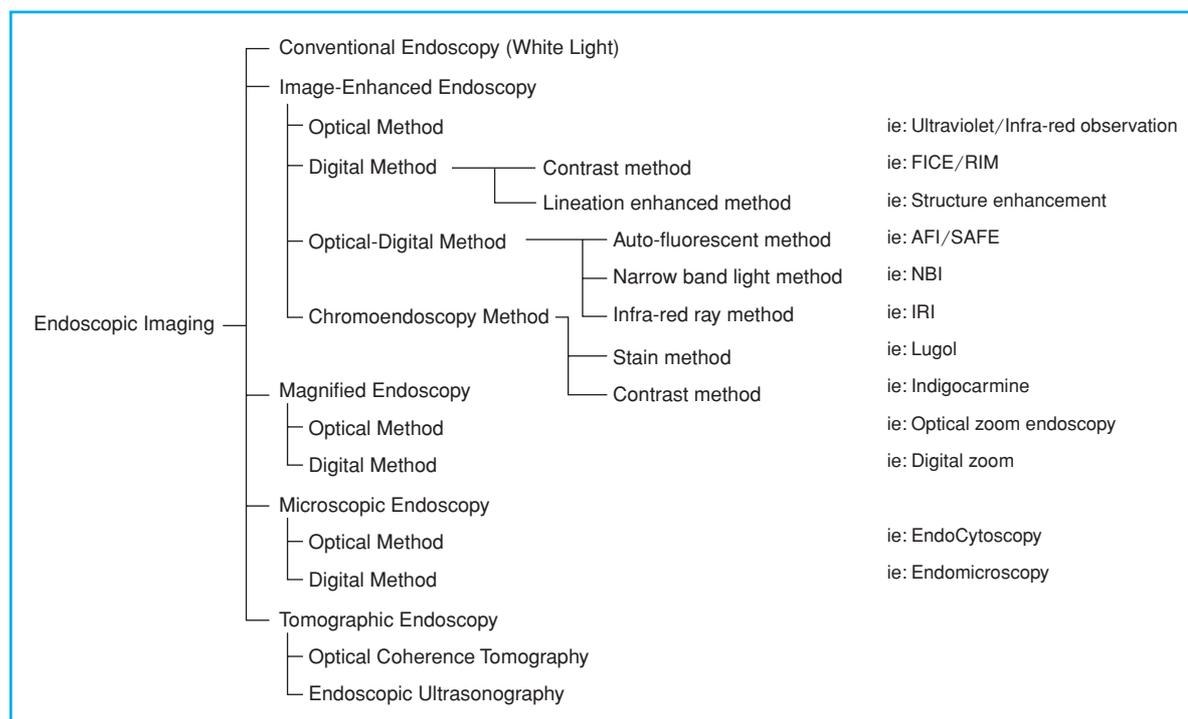


Fig. 1 Object-oriented classification of endoscopic imaging

FICE: Fujinon (flexible) imaging color enhancement; RIM: real time image mapping; AFI: auto-fluorescence imaging; SAFE: simultaneous auto-fluorescence endoscopy; NBI: narrow band imaging; IRI: infra-red imaging.

carcinomas of the stomach can be classified into two types: fine network patterns and corkscrew patterns, which correspond to well and poorly differentiated adenocarcinoma, respectively.² Therefore, the NBI system can be a powerful tool in the optical pathology of gastric tumors and can be utilized in gastric cancer treatments such as endoscopic submucosal dissection (ESD).

The usefulness of magnifying endoscopy combined with the NBI system has been studied with regard to the detection of specialized intestinal metaplasia (SIM) in columnar-lined esophagus and Barrett's adenocarcinoma.³ Fifty-eight patients, including 4 with superficial Barrett's adenocarcinoma, were enrolled in this study. The most characteristic endoscopic patterns of SIM were revealed to be the cerebriform fine mucosal pattern (sensitivity 56%; specificity 79%) and ivy-or DNA-like capillary pattern (sensitivity 77%; specificity 94%). Magnifying endoscopy combined with the NBI system enabled precise visualization of the structure of capillaries in the superficial mucosal layer. The addition of capil-

lary patterns for fine mucosal patterns appeared to improve the diagnostic value for detecting SIM and superficial Barrett's adenocarcinoma upon observation using NBI.

A multicenter prospective randomized controlled study has been conducted in Japan on the detection rate and diagnostic accuracy for superficial squamous cell carcinoma in the esophagus (ESCC) and the head and neck region (HNSCC), NBI vs. WLE.⁴ Three hundred and twenty patients with ESCC were randomly assigned into 162 NBI followed by WLE, and 158 WLE followed by NBI. In the first examination, the detection rates for the superficial lesion using NBI were significantly higher than those using WLE (H&N region 22 vs. 2, $P < 0.0001$; Esophagus 130 vs. 65, $P < 0.0001$). Diagnostic accuracy for histologically confirmed ESCC and HNSCC using NBI was high compared to WLE (90.1% and 56.8%, respectively). These results indicate that NBI could be a standard examination for achieving accurate diagnosis of superficial ESCC and HNSCC (Fig. 2).

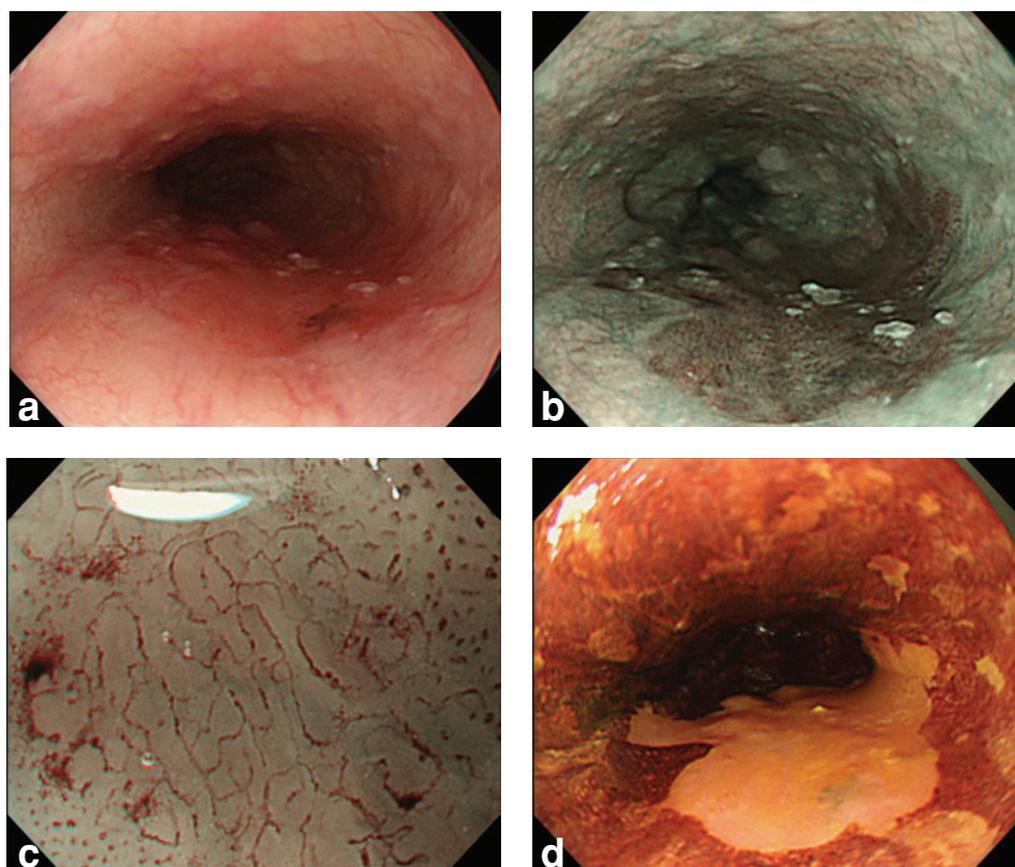


Fig. 2 Endoscopic images of superficial esophageal squamous cell carcinoma (0-IIc)

Conventional endoscopic findings show reddish area formation (a). The demarcated brownish area can be seen with NBI observation (b). Magnified endoscopic findings combined with NBI show changes in dilatation, tortuosity, and calibre of the intra-papillary capillary loop (IPCL) pattern (c). The size of the area unstained by iodine (d) and the NBI observations corresponded closely. A lesion was diagnosed as well differentiated squamous cell carcinoma (m3).

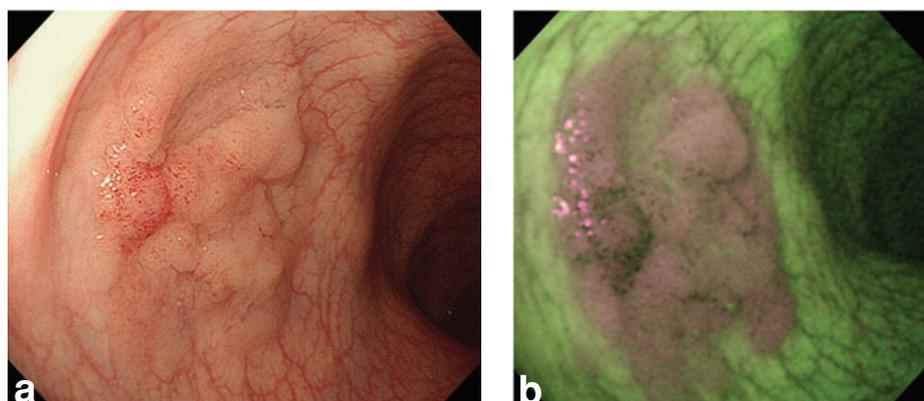


Fig. 3 Endoscopic images of a laterally-spreading tumor (LST) with granular changes to the rectum (25 mm in size, white light endoscopy used) (a) and auto-fluorescence endoscopy (b)

The one-push button changes the light from white light endoscopy to auto-fluorescent endoscopy simply and easily. With auto-fluorescent endoscopy, the tumor margin can be seen clearly as magenta color. The lesion was diagnosed histologically as well differentiated adenocarcinoma after endoscopic mucosal resection (EMR).

With regard to colorectal lesions, it has been reported that accuracy in the differentiation of neoplastic and non-neoplastic lesions was the same for chromoendoscopic imaging and NBI.⁵ Sano et al.⁶ reported that capillary vessels were enhanced more than usual in colorectal neoplasm, and classified capillary patterns (CP) into major three classes: CP Type I is invisible or faintly visible microvessels; CP Type II is clearly visible and slightly thicker capillaries with loose capillary density; and CP Type III is clearly visible and uneven-sized thicker capillaries with branching, curtailment, and irregularity with thick capillary density. In this third type, vascular casts of colonic carcinoma are characterized by a disorganized structure and density of microvessels, and the increased number and density of microvessels results in formation of nodular clusters of capillaries. In addition, many endoscopists in Japan are researching capillary patterns from various standpoints in order to further the quality of endoscopic diagnosis. NBI is also indicated to be an effective examination method in evaluating the mucous membrane and discovering dysplasia and colitic cancer in inflammatory bowel disease. NBI is an examination method with great potential.

Fluorescence endoscopy used to detect early carcinomas and discriminate between normal and neoplastic lesions has recently attracted considerable attention. Collagen, the fluorescence of which is in the green wavelength range, is one of the major sources of tissue autofluorescence (AF). However, there are important tissue changes other than, or in addition to, changes in gross tissue morphology. These may include alterations in the local blood volume, tissue metabolic activity, and relative fluorophore concentrations.

For AF endoscopy, a new AF imaging video-endoscope system (AFI, Olympus Medical Systems Co.) has been developed. The new AFI system features a switch for selecting either Red, Green, or Blue (RGB) illumination light for WLE or an excitation/reflected light-illumination light combination for AFI. The light source incorporates a rotary filter, which is designed in a double-wheel configuration with two concentric wheels: an RGB filter wheel for normal imaging and an AFI filter wheel. When the AFI mode is selected, the light emitted from the xenon lamp is input into the rotary filter and divided between the 390 to

470 nm excitation light and 540 to 560 nm green light. The AFI scope incorporates a monochrome CCD that has a barrier filter for cutting the excitation light to capture weak AF. A pseudo-color image is reconstructed based on the AF input signals so that high AF intensity is a greenish color and low intensity is magenta.

If the blue light for excitation reaches the subepithelial layer, AF is generated. Fluorescent observation attempts to convert AF into an image which highlights a tumorous lesion as an area differing in fluorescence intensity or color from the adjacent intact tissue with the goal of facilitating the detection and diagnosis of tumorous lesions. The new AFI system is very easy to use because the one-push button changes the light from WLE to AF simply and easily.

A comparative study was conducted with the WLE and AFI systems to differentiate neoplastic from non-neoplastic lesions in 190 cases.⁷ Results found the sensitivity, specificity and accuracy to be 98%, 92% and 99%, respectively. These results suggested that AFI might enable easy differentiation of neoplastic from non-neoplastic lesions in the colon (Fig. 3). In addition, we conducted a prospective blinded study that systematically compared AFI with WLE use in the detection of superficial gastric neoplasia.⁸ One quarter of the elevated gastric neoplasia cases were detected only with AFI. It is thought that AFI is a system with great promise for diagnosing early carcinomas and premalignant lesions in the GI tract as an adjunct to WLE. In particular, it has potential as a method of identifying small or flat tumors, tumor margins, grading, and premalignant lesions, and for assessing tumor response to therapy.

Dramatic advances in the diagnosis of disease in the GI tract have been made with "image-enhanced endoscopy" in electronic endoscope, including NBI and AFI as mentioned above. The frequency of less-invasive targeting treatment methods, with which affected sites may be treated more precisely and non-affected sites may be preserved as much as possible by utilizing diagnostic images, is expected to increase. Diagnostic endoscopy will be divided into two opposite directions in the future.⁹ In one direction, the diameter of endoscopes is decreasing and examination will progress to screening tests using wireless capsule endoscopy. In the other direction, highly precise imaging techniques are progressing. In the former, who will perform the screening

test and how the medical expenses should be structured will become issues. Endoscopy performed by a properly trained endoscopist is safer and better, produces a higher yield, and is more

cost effective, as the endoscopist translates endoscopic information into the patients' management files.

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The Medical Association Needs the Power from Hospital-based Physicians and Hospital-based Physicians Also Need the Power from the Medical Association

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I would like to discuss the issue of hospital-based physicians, one that we have lately been engaged with in the Yamagata Medical Association (YMA).

Hospitals in Japan are currently beset by wide-ranging waves of transformation and diverse demands, not least healthcare system reform, management reform and efficiency measures. I believe that we, as healthcare personnel, should accept this wave of reforms and demands as a contemporary trend of our era. Although it will require manpower, time and money to tackle these issues properly, the fact is that hospital-based physicians, whose hands are already full with their medical practices, will have to find the time from their own schedules to act on these issues; moreover with hardly any personnel or financial support. However, it is no exaggeration to say that even if hospital-based physicians are individually aware of the issues, they lack any means to collate, analyze and study the facts or seek potential solutions to the problems.

Understanding these circumstances faced by hospital-based physicians, the YMA, under the initiative of President Miyuki Ariumi, has embarked on a number of measures to ascertain the circumstances of hospital-based physicians, analyze the problems and study the nature of proposals and support that the medical association could offer towards resolving the same. We are also hoping that this would bring a call for awareness among hospital-based physicians that the medical association supports the healthcare activities of all



physicians and not just for physicians in private practice, and for hospital-based physicians and those in private practice to collaborate to address and resolve various issues towards the achievement of better medical care for the health of people.

In the “Speaking Up” column in the 20 August 2004 edition of *JMA Newsletter*, President Ariumi wrote, “Since private practitioners have experience as hospital-based physicians and hospital-based physicians may, in future, go on to open their own practices, it should not be difficult for them to share approaches to correcting the distortions in current medical practice,” and “Interest should be taken in the fact that the root cause underlying the uneven distribution in hospital-based physicians and their work overload is Japanese governmental policies.” It is against this background that the YMA is engaged in the following efforts:

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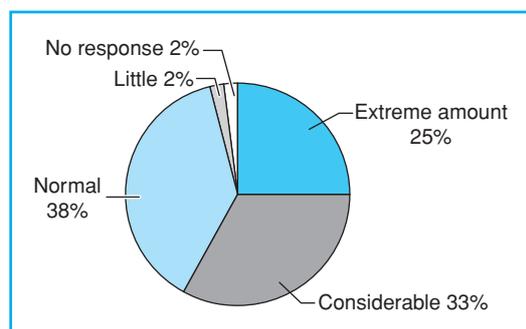


Fig. 1 Workload (Medical duties)

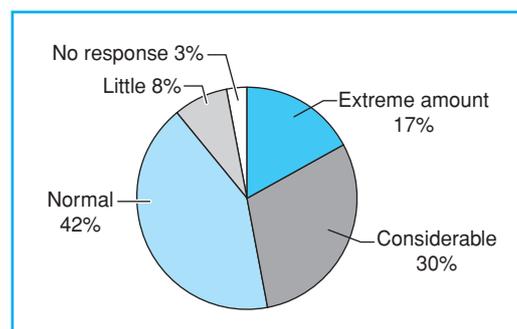


Fig. 2 Workload (Non-medical duties)

Survey of Hospital-based Physicians and the Search for Solutions

Noting the importance of ascertaining the circumstances, problems and mindset of hospital-based physicians as a basis for discussion and action towards resolving their problems, in June 2005 we distributed a questionnaire to all 1,298 hospital-based physicians (of which 986 are Medical Association members) working in Yamagata prefecture, to survey them on work conditions, work activities, problems at their hospitals, opinions regarding female physicians and other matters. We received replies from 464 (36%) of these. Sixty-five percent of respondents were medical association members. As the questions asked were wide-ranging, this discussion will address only some of them.

Twenty-eight percent of the physicians worked 16 hours or more overtime weekly, and 56% worked frequently on their days off. The average number of 24-hour shifts was four per month, only 6% of physicians were able to rest after their shifts, 51% had almost no lunch break, and almost all stated the reason "because it's simply impossible to finish work during office hours" to justify coming into work on their days off. Concerning their work conditions, 58% of physicians reported "considerable" medical duties (Fig. 1), and as many as 40% reported being "dissatisfied" with the same. Forty-seven percent of physicians reported "considerable" non-medical work (Fig. 2), and this response was especially prominent among mid-career physicians aged 40 and older. Almost all stated "many meetings" as the reason. Asked what methods were used to solve various

problems at their hospitals, the most common response was "more physicians," followed by "improving hospital organization" and "greater efficiency."

Based on these responses, there is a picture of stark conditions, in which hospital-based physicians have many non-medical duties added to their regular medical duties, mid-career and older physicians in particular being encumbered with meetings; an inability to manage their workloads within regular office hours; must often come to work on their days off; and in almost all cases, they must perform their regular duties beyond the end of their shifts.

Of the 59 female physicians (13% of the total), 60% said that allowances for women were "necessary" at work, of which 67% stated "allowance for pregnancy and child-raising" as the reason. Asked what allowances they wished their hospitals to accord, a roughly equivalent number responded "day-care centers," "work breaks to look after children" and "24-hour shift allowances." Seventy-seven percent said they "wanted to continue" work as a physician, and not one said she "did not want to continue." The number of female physicians is expected to continue to grow in Japan, and now is the time for hospitals to prepare for them. The YMA intends to take these survey responses into account when considering what measures will be needed in future.

Orientations for Residents

YMA officers have opportunities to visit resident orientations at postgraduate education hospitals in the prefecture to speak to the new residents participating. The aim for these briefings is not

only to brief fresh physicians on the medical association and urge them to pay attention to health-care policy, but also to show our faces and to give the residents a sense of familiarity with the Medical Association and YMA officers themselves.

Gathering for Board Members of the YMA and Hospital-based Physicians

Working from the results of the questionnaire survey of hospital-based physicians, in 2006 the board members of the medical association visited 11 leading hospitals in Yamagata prefecture to meet informally with hospital-based physicians. In these meetings almost all hospital-based physicians responding to the another questionnaire performed before these meetings listed “emergency care,” “overtime” and “24-hour shifts” as the top three issues they wish to see addressed,

the most common response of them was “emergency care.” A major issue raised at these meetings was that too many emergency patients who do not need surgical or medical admission were delivered to the nighttime emergency stations of core hospitals designated to provide third-degree emergency care regionally. Medical collaboration and governmental administrative support will be important to the resolution of this problem, and we are currently holding discussions with local medical associations and the prefectural authorities in search of a better strategy.

We hope continued and varied discussions will contribute to consolidating the relationship between the medical association and hospital-based physicians and that we both will be able to combine our wisdom and cooperate in working towards the resolution of these problems.

Activities of the Kanagawa Prefecture Medical Association Focusing on Its Academic Area

JMAJ 51(3): 207–208, 2008

Isao YAMAMOTO*¹

As of December 2005 the Kanagawa Prefecture Medical Association (KMA) had a membership of 8,090. In discussing the association's activities, I would like to focus on the academic aspects of the Kanagawa Association of Medical Sciences (KAMS).

With the addition of the Clinical Orthopedic Association in 2003, the KAMS now comprises 21 sectional groups (Table 1). The association works to foster these sectional groups, holding an informal meeting once a year with the presidents of these sectional groups as an occasion for exchange of opinion on such matters as the requests held by the sectional groups and each year on November 23 holding an academic conference and general meeting of the association featuring awards presented to distinguished academics, general lectures, special lectures and symposia. In view of the opening in August 2006 as the Kanagawa Special Biomedical Industrial Zone, which in July became the first authorized in Japan, of a hospital performing such advanced cosmetic treatments as breast regeneration with stem cells derived from fat, the acclaimed symposium addressed the state and future outlook for regenerative medicine, including dermal, cardiac and neural regeneration as well as soft tissues such as breasts.

The association's academic Kanagawa Igakkai Zasshi (Journal of the Kanagawa Medical Association) publishes two issues annually compiling papers submitted by its members and abstracts from sectional group meetings. Most of original papers describe field surveys of various illnesses



in different regions in the Kanagawa prefecture area, which are valued as a source of valuable information for devising tailor-made therapies that will be of great importance in future.

A social meeting on advanced medicine is also held once a year to study the state of various aspects of advanced medicine and issues they present with the objective of finding a way to the establishment of a more advanced system for the supply of healthcare. In 2005 Prof. Tomio Inoue of the Department of Radiology at Yokohama City University presented a lecture on “Recent Trends in Diagnostic Imaging of Cancers Using PET/CT.”

Kanagawa Prefecture is home to four university medical faculties—Tokai University, Kitasato University, St. Marianna University School of Medicine and Yokohama City University—and three hospitals affiliated with university medical faculties—Teikyo University School of Medicine University Hospital Mizonokuchi, Nippon Medical School Musashi Kosugi Hospital and Showa University Fujigaoka Hospital. The professors from these universities, the members of the KMA and the directors of the KAMS have regular

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Table 1 List of societies affiliated with the Kanagawa Association of Medical Sciences (21 sectional groups)

	Sectional group	Members
1	Kanagawa Society of Internal Medicine	1,648
2	Kanagawa Society of Clinical Surgery	313
3	Japan Society of Obstetrics and Gynecology, Kanagawa branch	1,020
4	Kanagawa Ophthalmologists Association	686
5	Oto-Rhino-Laryngological Society of Japan, Kanagawa branch	687
6	Japan Pediatric Society, Kanagawa branch	820
7	Kanagawa Dermatologic Association	520
8	Kanagawa Society of Gastroenterology	542
9	Kanagawa Orthopaedics and Traumatology Society	88 facilities
10	Kanagawa Society of Psychiatry	416
11	Kanagawa Urologists Association	300
12	Kanagawa Society of Anesthesiology	200
13	Kanagawa Society of Pathology	42 facilities
14	Kanagawa Radiological Society	183
15	Japanese Medical Society of Primary Care, Kanagawa branch	226
16	Kanagawa Regional Branch of the Japan Society of Medical History	101
17	Kanagawa Society of Oriental Medicine	504
18	Kanagawa Society of Psychosomatic Medicine	200
19	Kanagawa Society for Transplantation	371
20	Kanagawa Association for Infectious Disease	200
21	Kanagawa Clinical Orthopaedic Association	275

meetings to exchange information on recent medical treatments and collaboration between hospital-hospital and/or hospital-clinic.

The reporting rate of the Japan Medical Association (JMA) for continuing medical education (CME) in Kanagawa prefecture was 66.9% in 2003 and 68.5% in 2005, that slightly increase but is still below the national average of 70%. Therefore the prefectural medical association held a liaison council with city-level medical association members for CME in an effort to improve the reporting rate. Regarding the question of how to calculate the reporting rate, many present were of the opinion that the statistical parameter employed should be those members who are currently active rather than members of advanced age and in healthcare, and this is an issue we would like JMA to consider in future.

In February 2006 the KMA held its first education workshop for supervisory physicians with the full support of the JMA, and the 26 participants

found it of great utility. As of 2006 the medical association is now planning its own seminars, in particular for the many physicians in private practice.

The medical association also holds two “brain and heart disease seminars” each year as the CME program of JMA seminars, three or four “medical seminars” held jointly with sponsoring companies and medical seminars that are both opportunities for CME for physicians and for the general public to inform itself.

A 2005 survey of 1,074 physicians engaged in preceding postgraduate clinical training had a response rate of 53%, revealing a number of distinctive characteristics in Kanagawa prefecture and prompting consideration of a Kanagawa-specific program in late clinical training. We are also currently making efforts towards active participation in drafting problems for the national medical board examination.

Recent Activities of Hiroshima Prefectural Medical Association

JMAJ 51(3): 209–211, 2008

Shizuteru USUI*1

Hiroshima prefecture is a distinctly temperate region bounded by the Chugoku mountain range to the north and the Seto Inland Sea to the south. Comprising coastal cities and depopulated inland regions, the prefecture constitutes a microcosm of Japan.

The Hiroshima Prefectural Medical Association (HMA) has a membership of some 6,500 (as of 1 Aug. 2007), of which 3,700 are staff physicians at university hospitals, national public hospitals and private hospitals.

For reasons of space, this article addresses only the following three of its primary activities.

Regional Healthcare Council of Hiroshima Prefecture

Since calls emerged in 1960 for the establishment of regional healthcare study groups as the core of regional healthcare promotion, the Japan Medical Association and prefecture-level medical associations throughout the country have advocated the organization of these study groups.

The efforts of the HMA, in recognition of their philosophy and importance, on behalf of preparations for the establishment of a regional group resulted in January 1969 in the establishment of the Regional Healthcare Council of Hiroshima Prefecture comprising the Hiroshima University Medical Faculty, the Hiroshima Prefecture Medical Department and the HMA. In 1995 the ordinance-designated city of Hiroshima joined these three as the fourth component.

At the time of its inauguration, the council engaged in analysis of cause-specific death statistics and illness statistics and performed such



surveys as of adult diseases, pollution, health administration in agricultural communities, emergency healthcare and maternal and pediatric healthcare, and it has also pursued research along other lines in keeping with secular currents. In 2004 the council engaged in research in such wide-ranging fields as action on the shortage of physicians, the promotion of medical information, emergency healthcare, wide-area disaster medicine, palliative care, child-care support, abuse prevention, cancer screening quality control, mental healthcare, fitness and communicable disease policies. Specifically, the four component groups set up objective-specific committees, which published the results of their research in individual reports, with the ultimate objective of having the results of their research reflected in government policy.

In addition to this prefecture-level council, we have convened local study groups, 12 such during 2006, as opportunities for healthcare, medical and welfare service providers in Hiroshima prefecture to meet and exchange information in furtherance of closer collaboration with local study groups established on a local basis within the prefecture.

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Myocardial infarction forecasting

With the assistance of partners including the Japan Weather Association and the regional healthcare council, the HMA initiated myocardial infarction forecast services on 1 November 2004.

In order to expand to all areas of the prefecture the myocardial infarction forecast services that the Hiroshima City Medical Association had been performing in the city and nearby areas, the Special Committee for Promotion of Myocardial Infarction Forecasting, established within the council, conducted a survey of the relationship between meteorological conditions and the incidence of myocardial infarction in three sectors within the prefecture (the Hiroshima area, the Fukuyama area and the Bihoku area) and forecast their incidence there.

Based on their survey and analysis of the relationship between meteorological conditions and emergency conveyances for myocardial infarction over the past 3 years in these three sectors, the HMA website (<http://www.hiroshima.med.or.jp/>) is updated daily with predictions of myocardial infarction forecasts for the two areas of northern Hiroshima prefecture and southern Hiroshima prefecture of Critical where the average atmospheric temperature is under 6°C, the average atmospheric pressure under 1,013 hPa and a cold front passed, of Caution where the average atmospheric temperature is under 6°C, the average atmospheric pressure 1,013 hPa or over and a high-pressure front obtains, and of No Forecast otherwise.

The myocardial infarction forecast also appears daily in the regional newspaper Chugoku Shimbun, and we expect it to prove of use for the general public in their daily lives and for medical association members in diagnosing and counseling emergency patients and outpatients.

Special HMA Committee on Medical Accidents

The increase in recent years in medical accidents and medical disputes is an issue that the medical community as a whole should be truly concerned about, and Hiroshima prefecture is no exception in treating it as one of its most pressing tasks.

In February 1963 the HMA established its Special Committee on Medical Accident Processing and in the more than 40 years since then has worked to achieve resolution in the medical accidents and disputes of its members. In 1997 the committee was renamed the Special Committee on Medical Accidents and now applies itself not only to dispute resolution, but also to accident prevention and medical safety. The committee has a membership of 21, including its chair, vice chairs, members and legal counsels. Five subcommittees organized along lines of medical specialization examine the specifics of incidents brought to their attention with the objective of achieving fair and satisfactory dispute resolution based on medical judgment.

As a precaution against accidents involving medical association members, the committee manages a million-yen (US\$8,333)*² insurance policy automatically subscribed by all members and facility-contract and corporate insurance policies. It is most distinctive in the enduring spirit of mutual aid among the members since its foundation and its mutual benefit program of contributing up to 50 million yen (US\$41,667) towards expenses paid out by members for purposes of dispute resolution. This assistance program is utilized effectively in a variety of cases and serves to mitigate the financial burden of the medical association's members.

Currently some 1,200 cases of dispute have been reported since the establishment of the committee, and the medical association's journal Hiroshima Igaku published in its issue 5, volume 57 (May 2004) an article titled "Summary of 1,000 Medical Dispute Cases Handled" that summarizes 1,000 individual recent disputes. We hope that closer analysis in future and feedback to the committee will help to prevent medical accidents and medical disputes.

Japanese Physicians for the Prevention of Nuclear War

There is an organization called International Physicians for the Prevention of Nuclear War (IPPNW). A neutral, nonpartisan, global federation of physicians organizations founded in 1980 during the Cold War by a handful of heart disease specialists from the former Soviet Union and the

*2 Based on a yen-dollar exchange rate of 1 dollar = 120 yen.

United States, IPPNW currently embraces a membership of some 100,000 physicians in 60 countries. It was awarded the Nobel Peace Prize in 1985 in recognition of its efforts to spread throughout the world the message that nuclear weapons must not ever be used.

Since its establishment within the HMA in 1982, Japanese Physicians for the Prevention of Nuclear War (JPPNW), the Japanese affiliate of IPPNW, has worked closely as an organization of medical specialists with the other national affiliates of IPPNW through the organization's central office outside the American city of Boston towards the total abolition of nuclear weapons.

IPPNW holds world congresses and regional

conferences in alternating years, and in 1989 Hiroshima hosted the 9th IPPNW World Congress. In August 2005, the 60th anniversary of the atomic bombing, the 5th IPPNW North Asia Regional Conference was held in Hiroshima, and IPPNW members from throughout the world attended along with those from Northeast Asia.

Contrary to people's hopes, the risk of nuclear war has grown since the end of the Cold War, and the activities of IPPNW have never been more crucial. Japan being the sole country to suffer atomic bombing, Hiroshima continues to speak with a strong voice of the need for the total abolition of nuclear weapons.

Promoting Medicine, Supporting Doctors: The BMA in action

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Vivienne NATHANSON*¹

The BMA is currently celebrating our 175th anniversary. We are a complex organisation—a trade union without a political fund (and therefore without party political allegiance), a professional association, a company limited by guarantee and a medical publisher.

Although the BMA does not have a modern mission statement we do have a set of guiding principles. Our first article of Association reads: “To promote medicine and the allied sciences, to maintain the honour and interests of the medical profession and to promote the achievement of high quality health care.” That means in today’s complex health environment that we work to improve the health of the public, and the health care experience of those who become patients as well as the working conditions of doctors and the quality of care they are able to offer.

We were established at a time when large numbers of medical practitioners had no qualifications, not even having completed the apprenticeship route to becoming a doctor. It makes sense then that one of the BMA’s first actions was to compile a report on the dangers these quacks posed to patients, which led in a few years to the establishment of the General Medical Council which maintains the register of qualified doctors in the UK.

At the end of the 19th century we exposed the patent medicine trade—the poor had little access to health professionals and were spending money on potions and lotions advertised in the newspapers. The BMA report *Secret Remedies* set out chemical analyses of these products as well as the true cost of manufacture. The profit margins were enormous; most contained active ingredients but they were substances such as arsenic and anti-

mony—not major health products.

At the same time the BMA called for the development of a comprehensive health care system that would be available to all and free at the point of use. This was—as far as I know—the first major call for a national health service.

From those early beginnings a major part of our work has been to promote high quality medical care, and to raise the standards of medical practice. We are also very heavily involved in the Health of the Public, and were major players in work to get the UK to pass smoke free public places legislation. Other current lobbying is on diet and exercise, further tobacco control law and guidance, dealing with the alcohol abuse seen in our streets and weapons control—an area we first worked on in 1897. Our Board of Science carries out the research and publishes scientific reports that help us in our work as health lobbyists. A report on what doctors can do to combat climate change will be published on 3 April; amongst other things it advises on how the National Health Service could become carbon neutral or at least less of a part of the problem.

The Professional Activities Directorate includes the Board of Science and Education, Ethics, Conferencing, Medical Education, the Library, International Affairs and a Doctors Health Department. Although not part of our trades union directorate there is close co-operation. After all, if doctors are forced to work excessive hours there are risks not only to their health and welfare but to patient safety. Ensuring that our policy arenas understand the work each other are doing is a challenge when we are active in so many areas. Our members see the benefits of the complex activity.

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Trades unionism is currently unpopular with many key stakeholders, including many elected politicians. The fact that the BMA is so much more than a trade union makes it difficult for government and the media to ignore us. At times when our trade union actions, defending the rights of our members, or successfully negotiating new contracts for doctors, make us unpopular with government, this complexity makes it impossible for them to refuse to include us in discussions on matters which affect our members and our members' patients.

The media profile of the BMA shows the complexity of the organisation. The public see us as advocates for health and for better health care. While advocacy against tobacco or alcohol leaves us open to accusations of being the "health Nazis" (an especially unpleasant phrase used in some elements of the right wing press), most recognise that this is about protecting the vulnerable. The expertise of our public affairs department in ensuring that these complex and sometimes unpopular messages get to the public via the media, is immense. The challenge for the future will be satisfying all the new media outlets as well as the traditional ones.

A mainstay of our activity is the work we do in our ethics department. The department is not meant to be academic, but to prepare advice and guidance for our members. The fact, as one Professor of Philosophy and past chair of the International Association of Bioethics said, that the advice and guidance is academically excellent is a bonus for our members rather than a purpose or end in itself.

The BMA has had an ethics committee for many decades; the format of the committee has changed many times. Currently there are 10 medical practitioner members who are elected by our annual meeting and by our Council. To these we add 8 more members who bring other expertise including academic philosophy, medical law and secular and religious ethicists. The ethics staff has a wide variety of backgrounds and some have Masters degrees in medical law and ethics. They are not only the major contributors of written material but also take part in the vigorous debates in committee.

So what exactly does our ethics department do?

First and foremost we provide advice to members. We have guidance notes on common issues

on the BMA website—these pages currently enjoy over 14,000 hits a month. They are designed to help members find answers to their questions. As with all the publications we produce they are a complex mix of law and ethics. As we develop every new piece of advice we look at our domestic law and see what relevance both statute and case law have to the matter at hand. As the UK gradually devolves many decisions to the devolved governments of Scotland, Wales and Northern Ireland the complexity of analysing those laws increases.

Several years ago we were asked to produce a brief textbook of medical ethics. It grew, because the amount of legal analysis needed had grown so much to around 800 pages. Since we printed it (Medical Ethics Today, published by BMJ Publishing Group) we have committed to provide regular on-line updates setting out the relevance of key legislative and case law changes.

We also deal with several thousand direct queries every month—some are readily helped by guidelines or extracts from the text book. Many of the callers need to discuss the clinical matter with an adviser, and to talk through the factors they should take into account in resolving the problem. We rarely tell a doctor what the answer to his/her query is. We prefer to lead them through the questions they should ask, the analysis they should make and the route to their solution. Each discussion therefore helps to educate the doctor and to help him/her in the future.

Why should doctors contact us? Why should they buy our book when there are many dozens of alternatives available? The simple answer is that as well as academic excellence we are practical. We know doctors. We write advice that understands the clinical situations in which doctors face these dilemmas so that the solutions make clinical sense are not academic absurdities.

One example of the practicality is the production of toolkits to help newly qualified doctors deal with getting consent in real clinical situations. This is sent to all new graduates in medicine in the UK and will be joined this year by a toolkit on confidentiality and soon after by a toolkit on the working of the Mental Capacity Act. These three include sets of pocket sized cards that describe common clinical situations and how to assess the best course of action. We know they are needed as they cover areas of common enquiries. We know they work as we have field tested them

with medical students and young doctors. And we know they are a very real and tangible benefit of being a BMA member.

From time to time the ethics department identifies a specific area on which more extended guidance is needed. This has included a book explaining law, ethics and practice on *Withdrawing and withholding medical treatment*, now in its third edition and a forthcoming report on ethical issues relating to care of elderly patients. These books are written by departmental staff and commented on, and amended by the ethics committee.

Another area of work is advocacy about legislation or public policy. As an example the government initiated a new piece of primary legislation several years ago in response to the Shipman and Alder Hey scandals. The Human Tissue Bill was designed to ensure that never again would tissue be taken from deceased patients and stored for decades without reference. The key component was to give patients the right to decide on the storage and use of tissue, including ensuring parents made these decisions for their young children. The problem was that some of the hurdles built into the legislation made the practicalities of practising medicine impossible. The BMA ethics team got together people affected by the potential legislation, including the Royal College of Pathologists and the medical research community and worked out what we all wanted in the form of change and which elements were tolerable if undesirable. We then co-ordinated medical input to those officials writing and rewriting the Bill as it progressed through Parliament. While the final outcome—the Human Tissue Act is not perfect, it is acceptable. And—importantly—it meets the large majority of the public concerns that led to its development.

Another current area of work is on organ transplantation. The BMA has worked for over a decade with charities, medical organisations, patients groups and others to increase public understanding of organ transplantation, and to increase the number of people who put their names on the voluntary donor register. For some years we have also called for a system of presumed consent—that is every person having the

opportunity to put their names on a register of those not willing to donate organs after their death. This would then mean that the state could use your organs if you had not indicated your refusal. There are, of course, a lot of caveats to the process and we would require many protections to be built into the system. But this is our policy. And our Patient Liaison Committee agrees with the policy. Despite a lack of real public education we have had increasing public acceptance of the concept—now at a level of 64%. And willingness to be a donor is seen in up to 90% of the UK population.

A recent government taskforce has just advocated major system changes in the organisation of transplant services; we have welcomed their report. And we are delighted that the same taskforce is now considering the opt-out or presumed consent matter. Giving evidence in Parliament on the length and depth of our involvement was enormously positive. The doctors' organisation is seen as key to; informing the public, helping design a system which allows the wishes of the individual to be respected, increasing the availability of organs for transplant so that people do not die on the donor waiting list and to dealing with the mismatch in certain minority population groups between donation and recipient levels.

While organ donation remains a controversial issue in some arenas this is not the case in the UK. Controversy only exists around the relative importance of different legal and practical changes.

These are just a very few examples of the challenges we face. We spend a significant amount of time trying to predict the challenges for next year and thereafter to provide advice. One of my proudest moments was predicting that fetal tissue transplantation to patients with advanced Parkinson's Disease was likely to become an issue and to have completed the process of writing and adopting guidelines on this experimental technique before the first case studies were reported. That helped our members understand the limits. And more importantly it helped patients to see that medical science does not proceed unconstrained, but that rules are in place to protect them and the society in which they live.

Eulogy for Dr. André Wynen

The man who rescued the WMA from the threat of collapse and established the basis for the Declaration of Helsinki

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Tatsuo KUROYANAGI*¹

Dr. Andre Wynen, Secretary General Emeritus of the World Medical Association (WMA), passed away on June 10, 2007. Belated as they are, here I would like to respectfully express my heartfelt condolences.

According to Volume 53 of the World Medical Journal (WMJ), Dr. Wynen was born on December 8, 1923, in Brussels, Belgium, and joined the Belgian Army at age 16 during the Second World War. Following the German occupation, he attempted to escape to Africa but failed, eventually joining the Resistance Movement. In 1942, he passed his first examination at the then-illegal medical faculty in Namur, but was soon after arrested and imprisoned at the Breendonk concentration camp, then later transferred to the Buchenwald concentration camp on the outskirts of Weimar. Here he was exposed to typhus in biological experiments but survived and nursed many of the other victims. In 1945 he returned to Belgium after liberation by Allied forces, but was found to have contracted tuberculosis and was treated in Switzerland. Following his recovery, in 1947 he was finally able to resume his medical studies, qualifying in 1950.¹

At the WMA Council Meeting held in Tokyo in May 1971, it was decided to hold the 1975 General Assembly in Tokyo, and the 1976 General Assembly in the United States, which would be celebrating its bicentennial in that year. At the General Assembly held in autumn 1974, Dr. Taro Takemi, President of the Japan Medical Association (JMA), was elected as the President-elect of the WMA. Dr. Takemi chose “Development and Allocation of Medical Care Resources” as the



Dr. André Wynen in Tokyo, 2000

main theme for the scientific session held in conjunction with the Tokyo General Assembly, and preparations for the meeting proceeded steadily, with approaches made to leading healthcare economists both in Japan and overseas at an extremely early stage. At the same time, the WMA Committee and Council submitted three important resolutions that all remain today for adoption at the Tokyo General Assembly: a resolution concerning broad revisions to the 1964 Declaration of Helsinki (DoH); a resolution concerning the prohibition of torture; and a statement on the use and misuse of psychotropic drugs.

Before this, however, in 1972 the American Medical Association (AMA) withdrew from the WMA. The reason for this was that an increasing number of national medical associations belonging to the WMA had been allowing government officials to represent them within the WMA, resulting in a bias towards WHO activities. At the WMA General Assembly in Munich in 1973, Dr. Wynen was elected as Chair of Council. In the same year, Dr. A.Z. Romualdez of the Philippines, who had had a close relationship with the AMA, resigned from his long-held post as WMA Secretary-General and was succeeded by Sir William Refshauge, who was Director-General of Health of the commonwealth of Australia and a former chairperson of the WHO.

The 1974 General Assembly held in Stockholm, was presided over by Sir W. Refshauge, but because a resolution tailored to the wishes of the WHO were submitted, the Japanese delegation headed by Dr. Takemi (who opposed the resolu-

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tion) caused an incident when they walked out of the assembly in protest.² Incidentally, at the end of 1970 the JMA under the presidency of Dr. Takemi requested that the Japanese Government significantly raise medical fee, while at the same time requesting revision of the Medical Insurance Law (a request that was rejected). Consequently, following meticulous preparations, it was decided that from July 1, 1971 all JMA members would resign as health insurance doctors, and procedures to implement the strike (limited to health insurance treatment) began. After 1 month without health insurance doctors, all the doctors involved returned to providing health services. Following the mass resignation of the health insurance doctors, Japan's largest labor union, the General Council of Trade Unions of Japan (Executive), filed a lawsuit with the Tokyo District Court against the JMA officers, claiming that the mass resignation was illegal. The author acted as representative of the defendant in this case, in which the court ruled in favor of the JMA won in May 1973.

At the Council Meeting held in Paris in May 1975, the host of the Tokyo General Assembly and WMA President-elect, Dr. Takemi, presented the following report, asking the following questions: The autumn WMA General Assembly is to be held in Tokyo, but despite our efforts, the Japanese Government is not expected to issue visas to the South African delegation in keeping with the UN Resolution to this effect. Should we cancel the General Assembly altogether? Or should we hold it at another venue? We have already spent quite a large amount on preparations for the Tokyo General Assembly.² The JMA's interpretation may be incorrect, but under the WMA Constitution, when a member from a certain country cannot attend a General Assembly due to international conflict or other unavoidable reasons, the General Assembly must be cancelled and restaged at a venue where all members can attend. These regulations would seem to apply to the holding of the Tokyo General Assembly.

In response, on the condition that the WMA Secretary-General discussed with United Nations officials, it was decided unanimously by Council to hold the Tokyo General Assembly as planned. However, the WMA Secretary-General took no action and aimless days passed with the issue of the South African delegation gaining entrance

to Japan remaining unsolved. There was a real danger that the Tokyo General Assembly could not be held if the situation were to continue unchanged.

Meanwhile, those involved in preparing a draft revision of one of the WMA's most important declarations, the DoH, were encountering incredible difficulty due to the extensiveness of the changes to be made to the original 1964 Declaration. The drafters of the Declaration of 1975, chosen from three northern European countries, were Clarence Blomquist (Sweden), Erik Enger (Norway), and Povl Riis (Denmark). There was extremely strong opposition to the draft revision, particularly from the European pharmaceutical industry. In fact, the chairperson of the Bundesverbandes der Pharmazeutischen Industrie, Hans-Otto Scholl, sent a bizarre letter to the JMA dated August 28, 1975, requesting that the JMA oppose the revisions to the DoH, alleging they were the isolated work of Scandinavian medical groups, and stating that Professor Sewering of the German Medical Association and colleagues intended to vote against the revisions.

However, WMA President-elect Taro Takemi actively supported the expansion of the DoH's scope to include biomedical as well as medical issues; he made meticulous preparations for the revisions, appointing as a key member of the Japanese Preparation Committee Dr. Tatsuji Nomura, the founder and Director of the Central Institute for Experimental Animals, and sent him as Japan's representative to international meetings. Moreover, on June 27, 1975, the JMA had already responded to the WMA Secretary-General, stating that Japan basically supported the draft revision, while expressing the opinion that standards concerning the term "biomedical" and animal testing were in need of clarification.

One month prior to the Tokyo General Assembly, the WMA received a telegram from Japan, and Chair of Council Wynen and Dr. Takemi had a discussion. Dr. Takemi said, "I did my best. I spared no effort, but there was no getting the visas. It was impossible to secure them. What is your decision?" The Secretary-General opposed holding the Tokyo Assembly, but as Chair of Council, Dr. Wynen advocated the holding of the Assembly and began to think of a compromise plan. He said, "As Chair of Council, and as a practicing surgeon and doctor in Belgium, I pulled out a whole week of pages from my diary

and bought a round-the-world ticket (Brussels-Tokyo-Sao Paulo-Geneva) as a salesman for a proposal, the intention of which was to save the Tokyo Assembly.”

Incidentally, Dr. Wynen’s proposal was to “hold the Tokyo General Assembly as planned, on the condition that any of the items discussed and voted on in Tokyo could be taken up again, and if necessary re-voted on that the following Assembly, which the South African delegation would be able to attend.” Prior to departing for Japan, Dr. Wynen held discussions with South Africa and Brazil to obtain their agreement to the proposal in advance.² He paints a vivid picture of the scene at the discussions in Tokyo in his “Recollections on WMA’s 50th Anniversary,” published in Vol. 43 of the WMJ. Of course, Dr. Takemi accepted this proposal.

It is said that in history there are no “ifs,” but without the dedicated efforts of Dr. Wynen, it is highly likely that the JMA would have followed the path of the AMA and withdrawn from the WMA. As described above, Dr. Takemi had several years previously led the JMA to victory in a confrontation with the Japanese Government with the mass resignation of health insurance doctors. Under the circumstances, what do you suppose happened not only to the WMA, but also the DoH revisions? Even now, I shudder at the thought of it. However, the Tokyo General Assembly was successfully held 1 month later. Not only this, Dr. Takemi invited several economists from the United States and other countries as well as AMA representatives to the scientific session held in conjunction with the General Assembly, steadily paving the way for the AMA to rejoin the WMA. Speaking of the DoH, according to the official minutes of the Tokyo Assembly, there was apparently quite some debate over the terms “medical” and “biomedical,” and at the suggestion of the Canadian Medical Association, a compromise draft adding “involving human subjects” to “biomedical research” was drawn up. The minutes show that Professor

Sewering, President of the German Medical Association, and his colleagues actively praised the revision proposal.^{3,4} Furthermore, Japan hired a charter airplane to send its delegation of more than 100 to the 1976 General Assembly in Brazil.

Dr. Wynen saved not only the Tokyo Assembly, but also the very existence of the WMA, as a result of which the DoH and various other WMA declarations and statements were also saved.

I had the honor of meeting Dr. Wynen sometime after 1993. There are two instances in particular that I will never forget. One is the scene at the time of the associate members meeting for the Somerset West, South Africa General Assembly, when Dr. Wynen made a logical statement in support of the JMA. The other is the scene at the 2004 Tokyo General Assembly when Dr. Wynen, accompanied by his wife and wearing the necktie he had been presented by the JMA many years previously, spoke of his memories of his relationship with Dr. Takemi and the JMA. In Japan there is an expression “*Fusho Fuzui* (A wife should do her husband’s bidding),” and I was reminded of this whenever I saw Dr. Wynen and his wife together.

Dr. Wynen! Your successors in the WMA in each of their countries are all striving to help their patients as best they can. Please watch over our efforts so we don’t make mistakes.



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WMA Council Meeting in Divonne-les-Bain

A WMA council meeting was held in Divonne-les-Bains, a small French town near Geneva. It was an active meeting with an increased number of council members and other participants. At the beginning of the session, I had the opportunity to express my deep concern and sympathy to the victims of the Myanmar cyclone and China earthquake disasters as the Secretary General of CMAAO (Confederation of Medical Associations in Asia and Oceania), sentiments that were shared by all the participants of the meeting.

There were several important topics discussed, including the Declaration of Helsinki (DoH) and other various issues in specific areas. It seems a recent trend to discuss issues about global health in relation to global climate change and other environmental and energy issues.

Migration issues are becoming increasingly important from the global perspective because it harms the sustainability of health services and causes inequality in the level of health resources within community health in terms of both quality and quantity. In this way, the breakdown of social security systems, including health support, will cause further migrations of people, triggering further social imbalances. Such social insecurity may be largely solved by adopting a policy of universal health insurance.

On the one hand, new issues concerning health personnel safety are now arising because

of increasing violence at healthcare facilities from so-called “monster” patients.

Paradoxically, in some cases these patients are venting their strong dissatisfaction towards unfavorable results on their healthcare staff, either directly with violence or indirectly by legal means, despite the quality of health services rising to achieve marked improvements in mortality and morbidity rates. Thus, there seem to exist serious and fundamental discrepancies between healthcare quality and patient satisfaction levels.

The discussions and communications held in the peaceful Chateau De Divonne surrounded by lilac and horse chestnuts in full bloom were very useful for identifying and understanding such relevant issues. Following the meeting, we traveled on to Geneva to join the World Health Professions Conference on Regulation (WHPCR) meeting on our way back to Japan.

The next general assembly of the WMA will be held in Seoul, Republic of Korea, this October. We have observed significant development in the ROK's universal health insurance system supported by information technology. I look forward to attending the next assembly in Seoul, one of the major Asian cities, and communicating with participants from all over the world.

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Participants in the 179th WMA Council Meeting in Divonne-Les-Bains, 2008

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