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Special Feature

Hospitals Must Select Management Strategies and
Make the Kind of Decisions that will Achieve their Goals

Tsuneo Sakai

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This journal introduces the activities of the Association and healthcare in Japan to the world.

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Foreword



Tsuneo Sakai

President, Japan Hospital Association

The Act for the Promotion of Medical and Long-term Care came into effect on June 25, 2014 to ensure a sustainable social security system suitable for a super-aging society with a falling birthrate. The act stipulates requirements that have and will come into law, and issues related to these requirements have been discussed in preparation for full implementation. The Japan Hospital Association (JHA) has been particularly active in discussions concerning the Medical Bed Function Reporting System (brought into effect on October 1, 2014), Comprehensive Community Care Visions (brought into effect on April 1, 2015), and the Medical Accident Investigation System (to be brought into effect on October 1, 2015). In regard to the Medical Bed Function Reporting System and Comprehensive Community Care Visions, the Draft of the Guidelines for the Establishment of Comprehensive Community Care Visions were adopted at a meeting held on March 18; and in regard to the Medical Accident Investigation System, the conclusions reached after discussion at the council meeting were summarized and released on March 20.

Because these three systems are essential elements in the foundation of the future Japanese healthcare system, it is fortunate that the council was able to arrive at conclusions. Of course, there are some issues that require further discussion.

In regard to Comprehensive Community Care, I believe that it is challenging *“to converge the classification of hospital bed functions through the voluntary approaches by each hospitals alone”* because, in reality, the incentives provided function inadequately. The Japanese government is classifying hospital beds into four categories, highly-acute phase, acute phase, convalescent phase, and chronic phase, and this classification is expected to be phased in fully by 2025. However, the classification was based on the amount of healthcare resources to be invested rather than bed functions, which should be the basis of classification. This issue must be discussed further because the classification should not be based on healthcare resources calculated from medical service fees per day per patient. It would be much better and much more understandable for hospitals if hospital bed functions and medical service fees were linked to use for the classification.

It was extremely difficult to reach a conclusion on the Medical Accident Investigation System. The purpose of this system is to ensure safety in medical services and prevent the recurrence of medical accidents with consideration for the protection of individuals. Explanations to bereaved families about the results of investigations conducted by hospitals, which was the primary issue at council meetings held to establish ordinances and guidelines for this system, are to be provided *“orally or in writing, or both as appropriate”* and *“hospitals are required to place a priority on explaining the purposes and results of investigations in the form that bereaved families chose.”* The FY 2014 JHA Survey on Healthcare Safety provided opinions from medical professionals to the council and had a significant impact on the decisions because 73.9% of hospitals in our survey expressed the view that reports of investigations should be made available to bereaved families with consideration given to protecting anonymity of concerned people. In this Medical Accident Investigation System, administrators are required to *“report unexpected deaths and stillbirths caused by the medical care provided”* which emphasizes the judgment, responsibility, and role of the administrator. This system has just begun and needs to be improved over time.

The medical community needs to cooperate in providing high-quality, safe, and secure healthcare. FY 2015 will be busy for us as we consider solutions for various issues; however, I believe each step we make forward will bring good results.

International Modern Hospital Show 2014

Hospitals Must Select Management Strategies and Make the Kind of Decisions that will Achieve their Goals



Tsuneo Sakai

President, Japan Hospital Association

■ Outline of today's presentation

(Slide 1) First, I would like to talk about the international evaluation of Japanese healthcare and the changes in the environment surrounding Japanese healthcare.

A wide range of factors have influenced healthcare. The strongest of these is the economic influence brought about by the revision of the medical service fee system in FY 2014. Looking at the changes, you can clearly see the goals that the Ministry of Health, Labour and Welfare (MHLW) hopes to achieve.

Besides the revision in the medical service fee system, systematic reforms have been undertaken by the government. I wish to talk about anxiety over the continuing social security system reform. I am also worried about the new growth strategies and difficult issues in Abenomics.

I also need to talk about value-added tax issues, which have been difficult to address.

Considering the situation, Japanese hospitals are now required to select management strategies and make decisions that will allow them to achieve their goals. I will introduce a paradigm shift that has taken place in healthcare, one which is important in the consideration of new strategies. Facing these changes, I would also like to talk about the role of the Japan Hospital Association and our approaches.

■ International evaluation of Japanese healthcare

● *THE LANCET – Feature article on Japan*
(Slide 2) *THE LANCET* ran a feature article in its September 2011 issue on Japan 50 years after the

Outline of Today's Presentation

- Introduction
 - Evaluation of Japanese Healthcare
 - Changes in the Environment Surrounding the Healthcare System
- Economic Influence on the Medical Fee System
 - FY 2014 Medical Fee System Revision
- Reform by the National Government
 - Social Security System Reform
 - Concerns about Reform by the National Government
 - New Growth Strategy
- Value-added Tax Issues
- Selections and Decisions Made by Hospitals
 - Paradigm Shift in Healthcare
- Roles and Approaches by the JHA
- Conclusion

Slide 1

International Evaluation of Japanese Healthcare

- THE LANCET: An article featuring Japan (September 2011)
 - 50 years after the establishment of the universal health insurance system
 - Realization of universal healthcare pursued by the nation's Constitution
 - Realization of longevity within a short period
 - Provision of high-quality and effective healthcare at low cost
- Report from the National Council on Social Security System Reform (August 6, 2013)
 - There are no advanced market-oriented countries with healthcare systems in which regulations are as accommodating as Japan.
 - It is necessary to promote matching between need and provision in healthcare through control mechanisms based on data.
 - It is necessary for healthcare organizations to enhance self-discipline.
 - Japanese healthcare system has achieved a degree of cost performance that is highly regarded around the world.

Slide 2



President Sakai and the audience

establishment of its universal health insurance system. It was the first time *THE LANCET* featured a single country. Among the healthcare systems around the world, the Japanese universal health insurance system is an extremely rare example, and there are discussions about creating similar systems as well as questions about how Japan has found it possible to manage the system. When I attend International and Asian Hospital Federation conferences, people always ask me how Japan does it.

It is hard to realize here in Japan, but our healthcare system has been highly regarded because it achieves universality, longevity, and high-quality, effective, and low-cost care. People around the world wonder how Japan has been able to accomplish this.

● **Report from the National Council on Social Security System Reform**

The National Council on Social Security System Reform published a report on August 6, 2013. In the report, the council praised the Japanese healthcare system stating that “there are no advanced market-oriented countries with healthcare systems in which regulations are as accommodating as Japan.” Although many countries have more public hospitals, which facilitates policy decisions, Japan has an overwhelmingly large number of private hospitals, and these private hospitals try their best on an individual basis to achieve prudent hospital management. Therefore, the Council for Regulatory Reform insists that hospitals put greater effort into better management and that the government loosen regulations. I disagree with

this. Hospitals have already placed a priority on efficiency in management. Although there may be some differences in awareness between public and private hospitals, public hospitals have gone through the process of becoming incorporated administrative organizations and their system of management has become similar to the system employed at private hospitals.

The report also pointed out certain issues.

One of the issues pointed out in the National Council on Social Security System Reform report is the need to promote matching between need and provision in healthcare through control mechanisms based on data. I attended the hearing at the National Council on Social Security System Reform as a representative of the Council of Four Hospital Organizations and stated that while national and local governments in Japan used unified macro data, what they need to consider is micro data based on the state of individual regions to match the need and provision of healthcare. What I stated was included in this report.

The report also pointed out that individual healthcare organization autonomy does not function well in Japan. This, I believe, applies to our hospitals as well.

The report stated that “the Japanese healthcare system has achieved a degree of cost performance that is highly regarded around the world.”

As the above makes clear, the Japanese healthcare system is highly regarded.

● Changes in the environment surrounding the healthcare system

The environment surrounding healthcare system has been changing. Slide 3 shows the changes. This slide is from two years ago.

What this shows is that society has aged rapidly. Individuals aged 65 and above account for more than 25% of the population. In April or May of this year, that figure will become 25.1%. The relative contexts of diseases we are seeing as the population ages have also changed, and this impacts the allocation of treatment resources.

Medical technology, including genetic diagnosis and endoscopic surgery, has also progressed with astonishing speed. Unfortunately, the quality of regional medical care depends on the degree to which this technology has been incorporated by local hospitals.

In addition, the number of medical care providers has long been insufficient and unevenly distributed; and this has caused anxiety about the quality and efficiency of medical care.

Of course, patient awareness has changed as well. The term “monster patient” was bandied about not long ago, but the public has learned more and more about medical care. As a neurosurgeon, when I informed patients about the risks and benefits of procedures, they would invariably


listen without comment. Now, however, patients ask questions. They now might ask, for example, “Is that the average? “How many procedures have you performed?” or “What is your success rate?” Physicians need to answer patients honestly with clear data from their own hospitals.

The next change is reform of the system of medical care provision. The existing healthcare system consisted of large-size hospitals, medium- and small-size hospitals, public hospitals, private hospitals, university hospitals, general hospitals, acute care hospitals, chronic care hospitals, etc. Many have asked if these hospitals are clearly classified according to their functions, and if so many hospitals are really necessary.

As was described above, the medical service fee system has certain incentives. The most distinctive of these is the 7:1 patient/nurse ratio requirement in acute care hospitals. Many said, surprisingly, that they did not think the number of hospitals with such a ratio would increase significantly. I saw it, however, as a matter of course. With such an economic incentive, hospitals were quick to accommodate. After doing so, however, the fee system was revised and hospitals are now having an extremely difficult time dealing with it. Therefore, the medical service fee system itself may be a problem.

In regard to the worsening financial balance, the

Changes in the Environment Surrounding the Healthcare System
— Reasons behind the need for reform

Changes in Healthcare and Social Environment	Issues	Response by the National and Local Governments
<ul style="list-style-type: none"> • Rapid aging of society • Changes in the contexts of diseases 	Changes in the content of care	Establishment of a sustainable system by 2025 Report from the National Council on Social Security System Reform (August 6, 2013)  2014 Revision of Medical Fee Service System Medical and Long-term Care Promotion Act (June 18, 2014)
<ul style="list-style-type: none"> • Progress of medical technology 	Gaps in care and the quality that individual patients receive	
<ul style="list-style-type: none"> • Insufficiency of care providers and uneven distribution 	Enhancement of the quality and efficiency of care	
<ul style="list-style-type: none"> • Changes in patient awareness 	Patients make decisions about the care that they receive.	
<ul style="list-style-type: none"> • Reform of the care provision system 	Functionalization of hospital beds Reduction in number of hospitals	
<ul style="list-style-type: none"> • Revision of the medical fee service system 	Economic incentives 7:1 patient/nurse ratio	
<ul style="list-style-type: none"> • Worsening of financial balance 	Restoration of financial state Increase of value-added tax	
<ul style="list-style-type: none"> • Abenomics 	Growth strategy?	

Slide 3

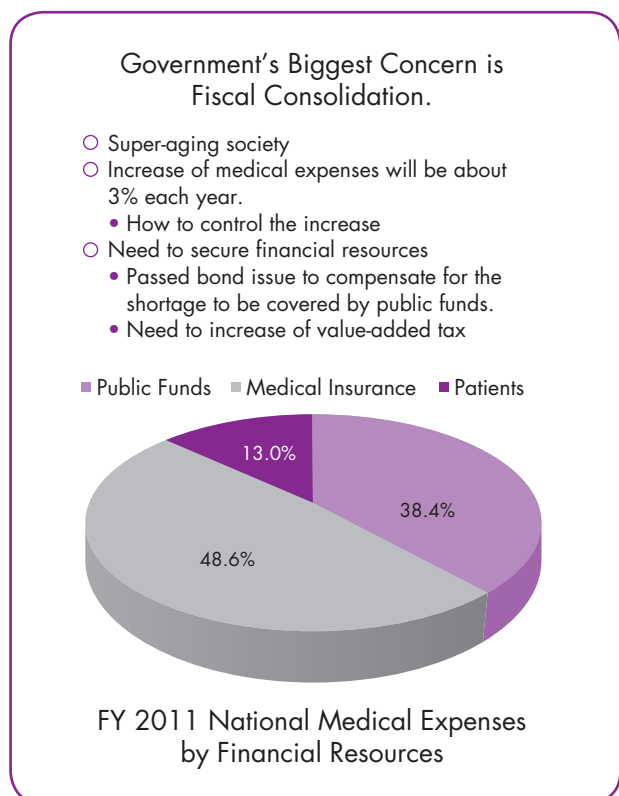
Japanese government places a priority on the fiscal consolidation. To generate revenue for healthcare, the government plans to increase value-added tax; however, this may be easier said than done.

In addition, as I mentioned before, I wonder if raising the value-added tax is appropriate for Abenomic growth strategies.

In response to these changes and issues, the national and local governments have worked to find solutions. It is said that we need to have a sustainable system by 2025. The National Council on Social Security System Reform published a report on August 6, 2013, and the medical service fee system was revised in 2014. On June 18, 2014, the Medical and Long-term Care Promotion Act was established.

It is important to understand such quick changes in society accurately and in a timely manner while performing regular hospital works.

(Slide 4) The establishment of an excellent social security system is not the national government’s primary goal. Of course, it is one of the goals, but they are more interested in fiscal consolidation. In this aging society, medical care expenses have increased by 3% each year.



Slide 4

It is essential for us to balance consolidation with the natural increase in medical expenses. The pie graph in this slide shows national health expenditures by source in FY 2011. Insurance payouts accounted for almost the half of the total. Patients bear 13% and public (tax) covers 38.4%. However, tax revenues cannot cover the expense. So the government passed a bond issue to compensate for the shortage.

In contrast to other countries, the majority of Japanese bonds are bought by members of the public. The government, therefore, insists that in spite of the value of the bond issue, default is unlikely. However, if this situation continues, the government will find itself bankrupt.

■ Economic influence of the medical fee system

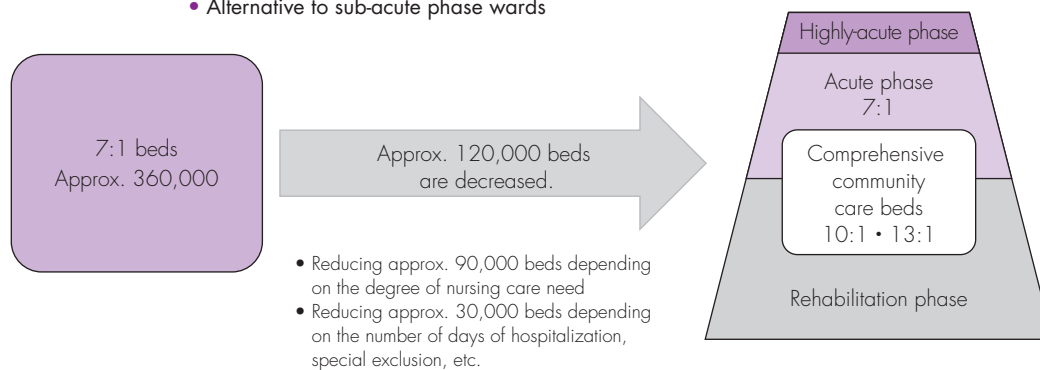
● Biggest issue related to the FY 2014 medical service fee system revision

(Slide 5) Under such circumstances, the medical service fee system was revised in April 2015. The system is influenced by the state of the economy. Therefore, the government may think that they can control hospitals and that other medical organizations will follow the government if it uses the medical service fee system wisely. The biggest issue in this year’s revision is the reduction in the number of 7:1 beds. The government wants to reduce the number of said hospital beds by 120,000 from the current 360,000. However, a reduction of 120,000 beds is too much. They might consider reducing 90,000 beds through changes in the scale from “degree of nursing care need” to “degree of severity and medical and nursing care need.” However, this would also be extremely troublesome. It is necessary for the Central Social Insurance Medical Council (CSIMC) to discuss its definition of degree of severity and medical and nursing care need. When we complain about system, the MHLW is want to respond by asking us, “Then, why don’t you present proposals for us?” As you already know, it is a challenge to establish indicators of efficiency and outcomes in healthcare; however, this is an unavoidable issue that needs to be discussed at the CSIMC medical service fee revision meetings.

The MHLW’s Health Insurance Bureau discusses matters regarding the Medical Care Act, and its Health Policy Bureau discusses matters regarding the medical service fee system. The Health Policy Bureau focuses on specialized functions in medical care, which will

Economic Influence on the Medical Service Fee Systems
 – Biggest issue related to the FY 2014 medical service fee system revision

- Reduction of the 7:1 hospital beds
 - Review of severity and degree of medical and nursing care need
 - Advanced implementation of the reporting system of medical bed functions
- Establishment of hospital wards
 - Comprehensive community care beds
 - Alternative to sub-acute phase wards



Slide 5

start in October this year, and revising the medical service fee system, which will start in April this year. In line with the implementation of medical service fee revisions, the MHLW will adopt the system of advanced reporting of medical bed function. The MHLW has introduced comprehensive community care beds so that acute phase patients in stable condition can transfer from 7:1 beds.

Hospitals were classified into highly-acute phase, acute phase, rehabilitation phase, convalescent phase, and chronic phase. The comprehensive community care phase has been placed between the acute and rehabilitation phase in response to a proposal by the Japan Medical Association and Council of Four Hospital Organizations. The comprehensive community care phase was an alternative to the sub-acute phase.

This new classification is also troublesome for us, and I assume everyone has encountered some difficulty in determining if their hospital should implement this new category, comprehensive community care phase, instead of the current 7:1 bed or chronic phase bed classifications. The decision should be made by September, so we will see significant changes in the compositions of hospital classifications.

● **Comprehensive community care bed concept**

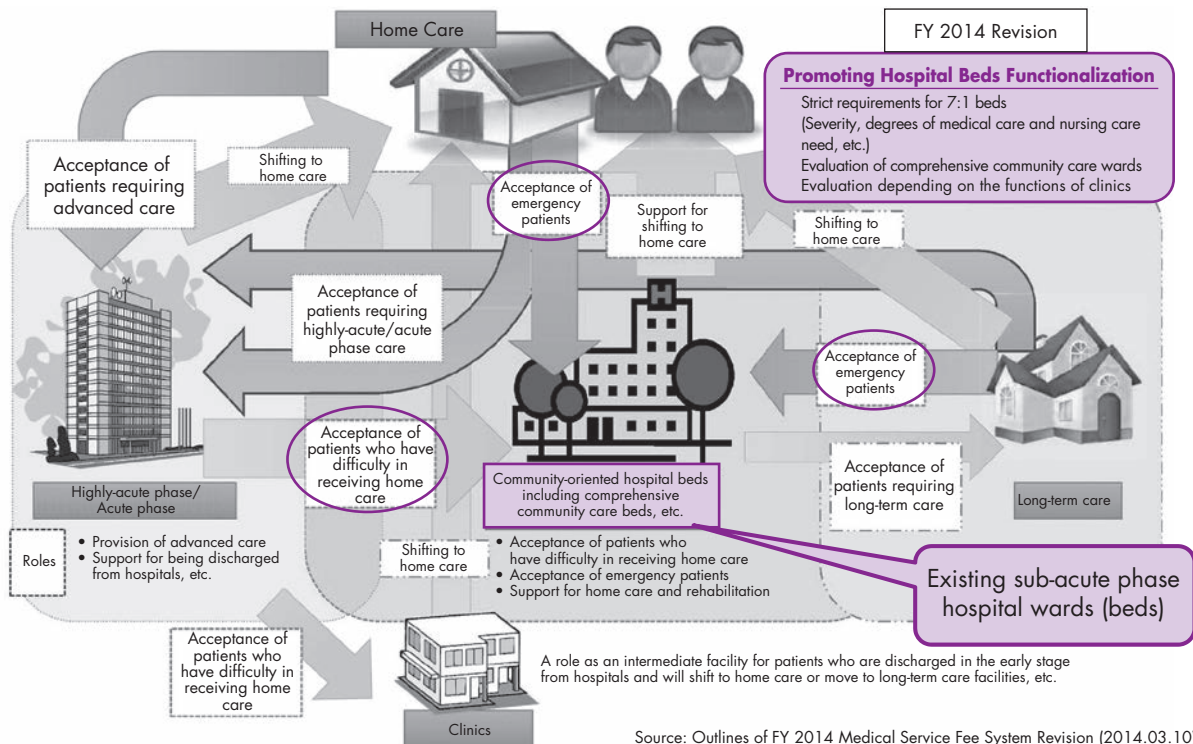
(Slide 6) This chart, as I mentioned above, shows comprehensive community care beds in the middle. Patients requiring advanced medical care need to be hospitalized. After they are treated at highly-acute phase hospitals, some can be discharged to home. However, it is necessary to have a system for elderly individuals, for whom home care is a challenge. Comprehensive community care beds are designed for such patients. There are also those who are at home but whose condition has taken a sudden turn for the worse. The comprehensive community care beds should be available for such patients as well.

This chart shows the fundamental medical care provision structure. “Patients for whom home care is difficult” and “Emergency patients” are described neatly in the chart. In reality, however, the classification of such patients is not always clear cut.

(Slide 7) Professor Tai Takahashi at the International University of Health and Welfare classifies the acute phase care into “active care” and “moderate care” in terms of the aging of patients and specialized care functions. This concept was originally introduced by Takao Ando, Vice President of the All Japan Hospital Association.

Professor Takahashi mentions the need to separate medical care for those who are between birth and 74

Comprehensive Community Care Beds System — Hospital beds functionalization



Slide 6

Comprehensive Community Care Beds — Management/target patients

- Aging and Hospital Bed Functionalization (by Dr. Tai Takahashi)
 - Acute phase care is classified into “inpatient care” and “moderate care for independent living.” (Financial System Council, 2013.10.16)
 - Separating care for those who are between birth and 74 years of age requiring aggressive treatment from care for individuals aged 75 years or older not always requiring aggressive treatment, and determining sub-acute phase beds (comprehensive community care wards) as beds required by those who are 75 years of age or older. (Social Insurance Newsletter issued on April 21, 2014)
- Roles and Evaluation of Comprehensive Community Care Wards (Beds)
 - Functionalization of hospital beds in the medical service fee system
 - Transfer from acute-phase beds: Existing sub-acute phase wards (beds)
 Acceptance of patients who have difficulty in shifting to home care: Those who are 75 years of age or older will increase.
 - Acceptance of emergency patients: Those who are 75 years of age or older will be the main patients.
 - Who and when to determine “active care” or “moderate care?”
 - Insufficiency in manpower and medical service fees for emergency patients

Slide 7

years of age requiring aggressive treatment from medical care for individuals aged 75 years or older not always requiring aggressive treatment. He means to position comprehensive community care as care for individuals aged 75 years or older.

Comprehensive community care beds are based on the

specialized care functions in medical service fee system with two functions such as for the patients in sub-acute care phase and emergency patients. In reality, both are mostly used by patients 75 years of age or older. The problem is how to determine which patients need “active care” and which patients need “moderate care,” and who

should have the authority to make that determination. If there are emergency technicians capable of making such judgments, I would definitely raise their salary. In fact, however, such judgments can be hardly made.

The current system does not allow hospital to have sufficient manpower or reimbursements to handle emergency patients. The new comprehensive care category allows relatively sufficient medical service fee points; however, the majority of such hospitals have 13:1 bed ratios. I am worried that hospitals with 13:1 bed ratios can't survive.

(Slide 8) In addition, it is also difficult to define acute phase medical care. There have been many definitions. The MHLW defines acute phase loosely as unstable to relatively stable condition following treatment. This is unclear and not sufficient. The definition continues as a phase of treatment for acute disease or exacerbation, including serious and urgent cases (myocardial infarction, stroke, etc.) and malignancy, and advanced surgical and medical treatments. This comes closer to the acute phase medical care that we are familiar with. The definition proposed by the Committee on Health Insurance of the Social Security Council three years ago was “disease requiring advanced medical care in consideration of

the degree of urgency and severity.” In other words, the judgment is made according to both urgency and severity, which makes it hard to define precise hospital functions.

■ Social security system reform by the national government

(Slide 9) Under such circumstances, Japanese government has advanced social security system reform. The social security system in Japan was based on hospital-centered care; however, it has changed to region-centered care. In 2012, agreement among three political parties led to the establishment of the Act on Promoting Social Security System Reform, which set the goal of restructuring the social security and tax systems in an integrated manner. On June 18, 2014, the Act on Promoting Securing Comprehensive Medical and Nursing Care Services was established. In response to this the government is striving to revise the 19 laws and regulations related to the Medical Service Act and Long-term Care Insurance Act, establish a new fund system and initiate a system of medical bed function reporting.

(Slide 10) The key elements in the government reform plan are the system of reporting medical bed functions and comprehensive community care visions. The system of reporting medical bed functions will start in October 2015, in response to which secondary medical care regions in each prefecture will establish their community-

Definition of Acute Phase Medical Care

- Unstable to relatively stable condition following treatment
- Treatment for acute diseases and acute exacerbation of chronic diseases
- Including serious and urgent cases (myocardial infarction, stroke, etc.), malignancy, and advanced surgical and medical treatments
- Diseases requiring advanced care in consideration of the degree of urgency and severity

Source: Materials for Social Security Council, Health Insurance Committee (December 1, 2011)

Slide 8

Draft of Social Security System Reform by the National Government

- Shifting from “hospital-centered care” to “region-centered care”
- Establishment of the Act on Promoting Social Security System Reform (2012): Restructuring the social security and tax systems
- June 18, 2014: Establishment of the Act on Promoting Comprehensive Medical and Nursing Care Services
 - Revising and improving 19 laws and regulations related to the Medical Service Act and Long-term Care Insurance Act
 - Establishing a new funding system
 - Establishing a system of medical bed function reporting
 - Comprehensive community care visions
 - Clarifying specific care among medical assistant performance/ Establishing specific training system for nurses
 - Creating a framework for investigation of medical-related errors

Slide 9

The System of Reporting Medical Bed Functions & Comprehensive Community Care Visions

- Establishment of a reporting system and visions for detailed care plans
- Provision of discussions to embody the care plans/ Establishment of a new fund system

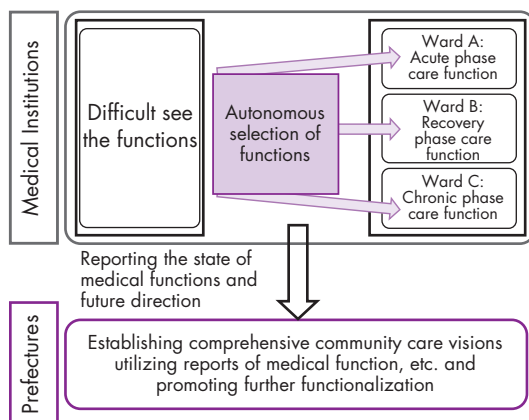
○ The system of reporting medical bed functions (FY 2014 -)

Promoting each medical institution's consideration of the current state of its care function, select future direction, establishment of a system reporting function of each ward to the prefecture, and the autonomous approaches by the medical institution

○ Establishment of the Comprehensive Community Care Visions (FY 2015 -)

Prefectures establish comprehensive community care visions to promote the well-balanced functionalization and cooperation of medical functions suitable for each region, including the future necessity of medical functions by each secondary care region utilizing future estimates of care demand in each region and reported information, etc.

National government establishes guidelines for the establishment of comprehensive community care visions by prefectures (FY 2014 -)



Comprehensive Community Care Visions

1. Medical care demand in 2025
Number of patients for hospitalization, outpatient treatment, and by disease
2. Desirable medical care provision system to be achieved in 2025
Required amount by medical functions in the secondary care regions (Municipalities should handle home care and comprehensive community care.)
3. Measures to achieve the desirable medical care provision system
e.g.) Building facilities to promote functionalization and cooperation of care functions/ Securing and training healthcare professionals

Slide 10

Healthcare Functions to be Reported by Medical Institutions

Names of healthcare functions	Content of healthcare functions
Highly-acute phase care	<ul style="list-style-type: none"> • Providing extremely-high intensity care for acute-phase patients to achieve the stabilization in the early stage.
Acute phase care	<ul style="list-style-type: none"> • Providing high intensity care for acute phase patients to achieve stabilization in the early stage.
Convalescent phase care	<ul style="list-style-type: none"> • Providing care and rehabilitation for patients following the acute-phase to prepare for home care. • Providing intensive rehabilitation for patients with cerebrovascular disease and femoral neck fracture, etc. that have passed the acute phase to improve ADL to prepare for home care. (Recovery phase rehabilitation care).
Chronic phase care	<ul style="list-style-type: none"> • Providing hospitalization for patients requiring long-term care. • Providing hospitalization for patients with severe disabilities requiring long-term care (including severe disturbance of consciousness), patients with muscular dystrophy and intractable disease.

Slide 11

based integrated care visions. There is not much time left.

(Slide 11) There are four medical bed functions to be reported. General hospitals are classified into highly-acute phase, acute phase, convalescent phase, and chronic phase. Hospitals specializing in psychological and

infectious disease are not required to report. I made a comment at the bottom of the slide noting that the content of the said-functions is not clear.

As you read this, it seems easy to understand that the highly-acute phase is for extremely-high intensity care,

and acute phase is simply for high intensity care. Then, what does “extremely-high intensity care” mean? It is not easy to define this now, so we will just follow the issued guidance after the government starts using the system.

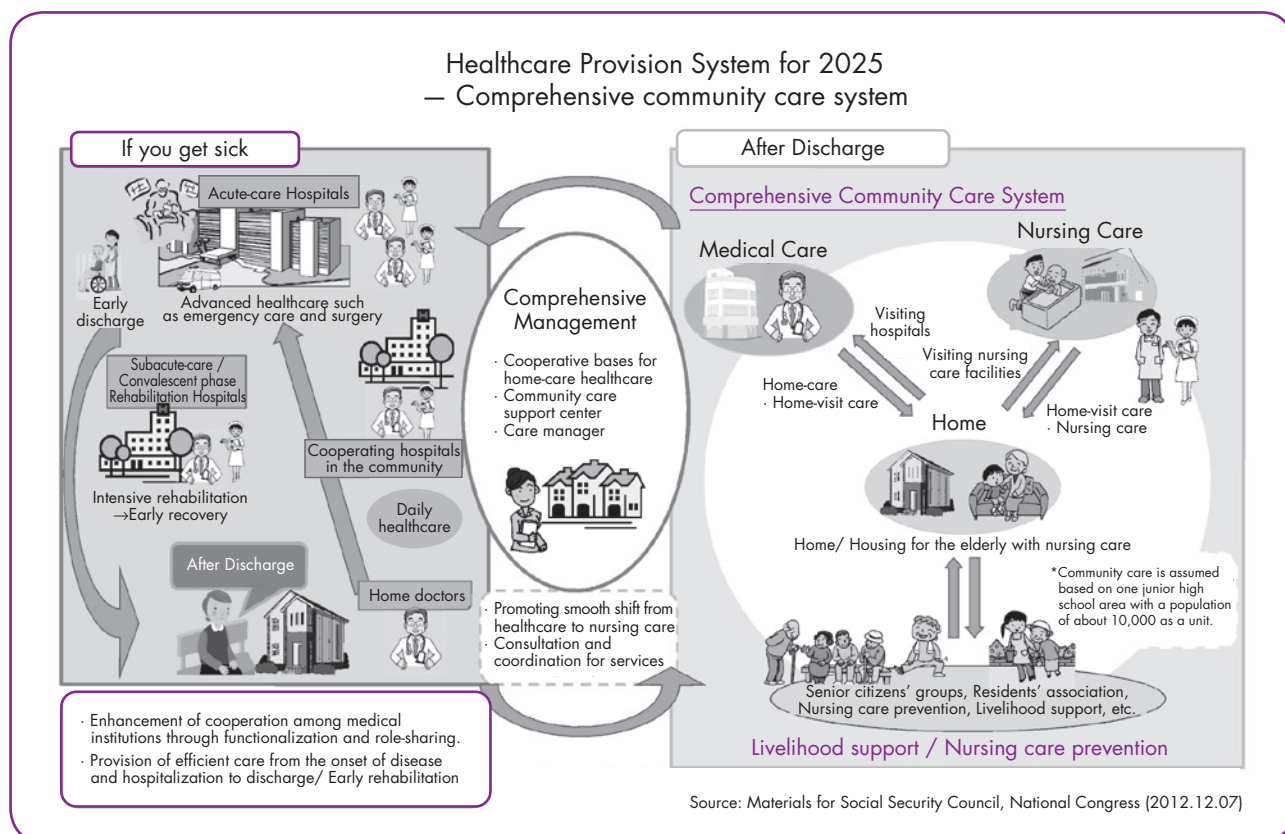
Medical care provision system reform aims to establish a better system, namely the comprehensive community care system preparing by 2025, when baby-boomers will be 75 and older. The term “community-based integrated care system” was created within the long-term care system. Recently, general medical care has also been included in the movement of long-term care system reform.

(Slide 12) Through this reform, patients visit their home doctors first, and then if needed, patients are referred to a general acute-care hospital. The acute-care hospitals diagnose and provide treatment with the goal of patient discharge in short possible stay. Patients for whom care at home is difficult are cared for at rehabilitation hospitals. The “sub-acute phase” shown in this slide is now “comprehensive community care.” After discharge, each community provides patient assistance for medical care, long-term care, and daily life based on the comprehensive community care concept.

Home doctors play an extremely important role in this system. Hospitals tend to make way for clinics. That is, individual physicians are allowed to open a practice wherever they choose while the establishment of hospitals is regulated. Even the opening of public baths is regulated, but a physician can open a clinic anywhere. All physicians have studied and taken the national license examination, and it is hard to object to the current system that allows this. Any physicians can treat insurance patients, too.

These two factors may cause regional maldistribution of physicians. I think there is a need to consider these issues.

Of extreme importance in the comprehensive community care system is the deepening of cooperation between hospitals and clinics. It is also necessary to deepen cooperation not only for medical care, but also for healthcare and preventive healthcare that are provided before medical care. It is also very important to have cooperation between medical and long-term care. Therefore, hospitals should consider such comprehensive or integrated healthcare beyond the provision of hospital and out-patient care.



● Future plans

(Slide 13) Some plans have already been made, as I mentioned above. Whether it is good or bad and irrespective of whether we like it or not, the system of reporting medical bed function will start in October 2014. In April 2015, prefectures will start making visions, and the long-term care fee system will be revised. In October 2015, value-added tax may be raised to 10%. In and after October 2014, Prime Minister Abe will make such decisions. If he postpones the implementation of these, it means that his Abenomics policies have failed. Therefore, I am sure that the value-added tax will be raised to 10%. If so, medical service fees will also be revised. Therefore, the revision of the medical service fees scheduled for April 2016 may be advanced.

In 2018, in addition to the revision of medical plans and long-term insurance project plans, the medical and long-term care fee systems will be revised, which means that most of the plans regarding Japanese medical care will be settled in 2018. There is no way ignoring the facts.

● Concerns about national reform

(Slide 14) However, we also have concerns about government reform.

The comprehensive community care visions are medical plans. When the comprehensive community care plan was established in 2013, revision of the plan was scheduled to take place following five years. However, at a meeting of the National Council on Social Security System Reform, the Council of Four Hospital Organizations asked the government to revise it earlier

Future Schedule

- October 2014
 - Begin system of hospital reporting of medical bed function
- April 2015
 - Begin creation of visions by prefectures
 - Long-term service fee revision
- December 2015?
 - Increase of value-added tax to 10%
- April 2016
 - Medical service fee revision
- April 2018
 - Revision of healthcare plans & long-term insurance project plans
 - Revision of medical service fee & long-term service fee

Slide 13

than that. In response to our request, the government has accelerated the plan and added the medical care plan that would have been established in 2013. And the plan promotes the specialization of hospital functions and hospital cooperation.

My biggest concern is that the government will entrust the authority to the local governments. The authority of the governor of each prefecture will be reinforced. The MHLW promotes opportunities for discussions about this. However, among those prefectures in which discussions have been scheduled, few hospitals are taking part. Prefecture governors have significant power in allowing opening of new hospitals and increasing hospital beds.

It is now essential to promote appropriate and fair implementation of such discussions.

In regard to the reporting system, it will soon start as a qualitative regulation such as highly-acute and acute phases, which will shift to a quantitative regulation. The secondary medical care regions that have a number of acute phase beds will be asked to decrease the number to 1,000 beds for example. We are already being asked to do this without realizing it. If the government aims to achieve this, I really hope that they will apply the PDCA cycle to verify the system and shift to the quantitative regulation.

My biggest concern is that such a system may

Concerns about National Reform — Enhancement of the authority of governors, etc.

- Comprehensive community care visions are part of medical plans.
- Promoting functionalization and cooperation.
- Enhancement of the authority of governors:
 - Decentralization
 - Providing opportunities of discussions
 - Opening new hospitals and increasing beds
 - Responding to the shift of medical functions
 - Responding to unused beds
 - Measures for cases that do not follow requests, orders, or guidance
- Problems
 - Need to ensure appropriate and fair discussions
 - Shift from qualitative regulations to quantitative regulations should be after PDCA.
 - Pay attention to regional disparities.
 - Support and consideration for human resource cultivation by individual prefectures
 - Establishment of the framework of human resource cultivation

Slide 14

generate regional disparities. Some say that the current system is too unified; however, it reinforces the medical care provision structure throughout the nation. Once it is entrusted to each prefecture, there will be significant disparities between the governors who do and do not understand the system.

In addition, while the MHLW has sufficient manpower, prefectures do not have enough human resources. Therefore, the government needs to provide assistance for this, including due consideration for and the creation of a framework. This issue was also brought up at a meeting of the National Council on Social Security System Reform.

● New growth strategy

(Slide 15) A new growth strategy was recently brought up by the government as the third national reform to be included in three policies of Abenomics. The growth strategy includes fiscal consolidation as a hidden agenda.

They insist that medical care is one of the pillars of the growth strategy, but I wonder if this is really true. The globalization of medical care has been promoted. For example, it has been three years since Medical Excellent JAPAN (MEJ) was established. The mixed medical care (mixed-billing) system, including insured

and elective treatment, is also being promoted and one of the plans is to implement medical care requested by patients. I think it is possible that this be covered by the special medical care coverage system that applies to concomitant insured and elective treatment.

The Fiscal System Council released its basic concept of fiscal consolidation. It aims to bring the primary balance of both national and local governments into the black by FY 2020. It also sets target expenses for social security by region. This has been brought up all of a sudden, but I remember that the Koizumi Administration also set the goal of reducing medical expenses by 220 billion yen per year. I feel that the same goal was brought up in a different form. Although the government has a plan to implement this slowly, the decision is left to each prefecture, which is I think very dangerous.

Another system to be implemented is the nonprofit holding company system that was proposed by the Cabinet Office. The purpose of this system is to promote cooperation among medical institutions for efficient governance, but there is a problem in this system because the government allows the involvement of profit-making companies too. Although it is called “nonprofit,” we don’t know how it will be in future. The government also intends to reduce the basic payout for 7:1 beds.

The value-added tax increase has been discussed as a financial issue related to medical care. I wonder if the government really thinks it is possible to cover the expenses to be borne by hospitals with medical service fees; however, the hospital organizations do not agree with the idea. Although the revision of the medical service fee system also excludes medical care from value-added tax, advanced medical equipment was not excluded, nor in fact has the government allowed any subsidies to help with the purchase of such equipment. This contributes to the huge difference between hospitals and clinics, which I will explain later.

(Slide 16) shows medical treatment requested by patients. While the mixed medical care system has been agreed to be permitted, it was prohibited with the establishment of regulations in 1984. Recently, through the implementation of the mixed medical care system, the bans on unapproved medical treatment for drug verification and elective treatment were lifted. In March

Reform by the National Government — New growth strategy

- Abenomics: New Growth Strategy
 - Financial consolidation as a hidden agenda
 - Healthcare is one of the major pillars of the growth strategy.
 - Globalization of healthcare
 - Expansion of the mixed medical care (mixed billing) system: Medical care requested by patients
- Basic concept of fiscal consolidation
 - Fiscal System Council: May 30, 2014
 - Aiming to bring the primary balance of both national and local governments into the black by FY 2020
 - Implementing individual expense goals by regions
 - Nonprofit holding company system
 - Continuing to reduce 7:1 beds
- Value-added tax
 - Financial issues in healthcare
 - Covering the expenses for value-added tax by medical service fees?
 - Handling of advanced medical equipment in relation to tax exemption

Slide 15

2014, the national government hammered out coverage for elective treatment. The Japan Medical Association and other hospital organizations were against this idea. Within one month, the government proposed a new framework for the mixed medical care practice system, which is the elective treatment system.

This also has some problems. However, the details of the plan do not look so bad. What we are worried about is the assurance of safety. There is the relief system for victims of adverse reaction to medicine. However, we need to carefully check that such a system can be implemented.

(Slide 17) The Liberal Democratic Party (LDP) discussed value-added tax issues more than ten years ago. As a result of various hearings, the LDP released a summary in April 1988. According to the summary, the JMA stated that medical treatment and pharmaceuticals

that protect the lives and health of people should be excluded from value-added tax even if the review results in the implementation of value-added tax system. The JMA insisted that medical treatment and pharmaceuticals that protect the lives and health of people should be excluded from taxation. The Council of Four Hospital Organizations also agreed with this. In the end, however, the JHA disagreed with value-added tax for treatment to shift the burden to medical institutions. However, they were excluded from the tax and covered by medical service fees system.

(Slide 18) The hike of value-added tax to 8% will increase the government income by 5 trillion yen in FY 2014. Only 10% of the amount (500 billion yen) will be used to improve the social security system, which was the original purpose of increasing the value-added tax. If the

Background of the Medical Care Requested by Patients — Mixed medical care system and combined system of insurance and non-insurance services

- 1984: Implementation of specific medical service expenses system
 - Collection of balance of payment outside the system is not allowed. Mixed medical care (mixed billing) is banned.
- 2006: Implementation of the combined system of insurance and non-insurance services
 - Lifting the ban on unapproved medical treatment for drug verification and elective treatment
- March 27, 2014: Establishment of the Elective Treatment System (tentative)
- May 14, 2014: Opposition to the government plan at the 10th National Council on Healthcare Promotion General Meeting
- June 13, 2014: Establishment of new framework of a combined system of insurance and non-insurance services
 - Establishment of the healthcare requested by patients to expand the healthcare options to be selected by patients

Opinions

- It is not right to change the system simply because of the problems in operation.
- It is appropriate to improve the operation of advanced healthcare (elective treatment) and fulfill the current combined system of insurance and non-insurance services.
- Priority issue is the ensuring safety.

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Value-added Tax Issues — LDP opinions at the Tax Commission (April 8, 1988)

Opinions at the Tax Commission (April 8, 1988)

- JMA
 - Medical treatment and pharmaceuticals that protect the lives and health of people should be excluded from value-added tax even if the review results in the implementation of a value-added tax system.
- Council of Four Hospital Organizations
 - If the new indirect tax will be broadly and evenly implemented, the tax should be incorporated into social insurance fees to be borne by patients, who are the final consumers, in accordance with the principle of the value-added tax burden.
 - General value-added tax and sales tax proposed in the past are excluded in healthcare. If the new indirect tax is excluded in healthcare as well as education, it is better to have a system of returning the tax paid for pharmaceutical products, healthcare equipment, and buildings.

For reference: JHA opinions afterwards

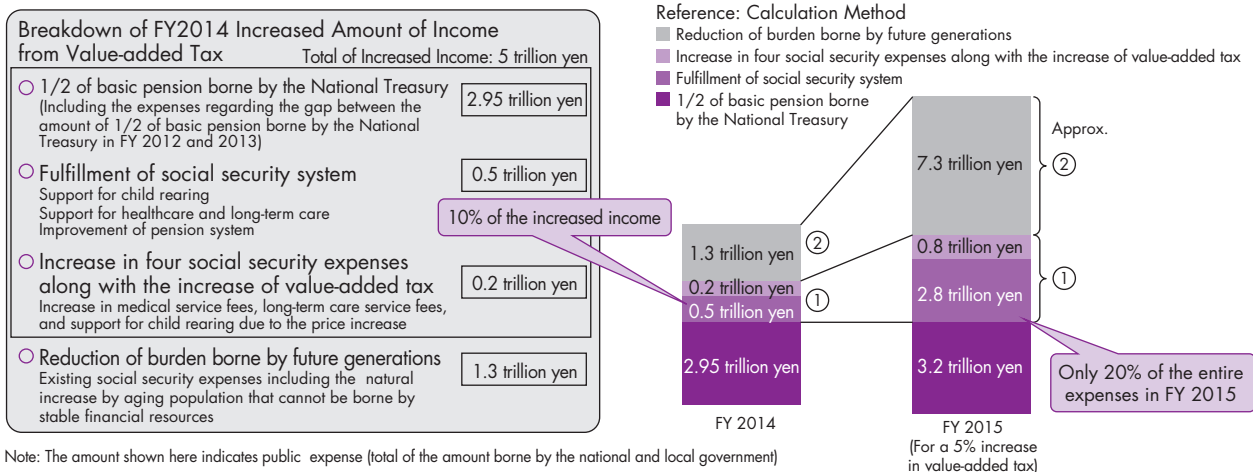
They disagreed with value-added tax for treatment to shift the burden to medical institutions.

Slide 17

How to use the increased amount of value-added tax

- The increased amount of government income from the high of value-added tax is used to fulfill and stabilize the social security system.
- 5 trillion yen* which is the increased amount of FY 2014 is used as follows:
 - (1) 2.95 trillion yen is used to cover a half of the basic pension that is borne by the National Treasury.
 - (2) The 1/3 of the rest is used
 - To fulfill social security system and compensate for the four social security expenditures along with the increase of value-added tax.
 - The 2/3 of the rest is used to reduce the burden borne by future generations.

Note: Value-added tax will increase in a gradual manner because the fiscal years used by the government and by business operators who pay value-added tax do not always match.



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value-added tax is raised to 10%, the amount to be used for the improvement of the social security system will be only 20%. This means that the funding available for improvement will be limited even if the value-added tax is raised.

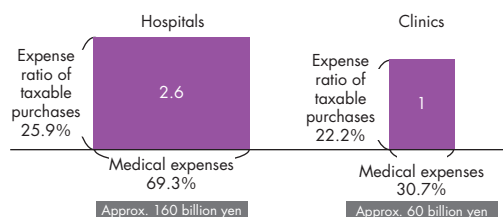
(Slide 19) Of the revenue generated from value-added tax, 70% was allocated to hospitals and 30% to clinics. In real terms, this means that 160 billion yen was provided to hospitals and 60 billion yen to clinics. However, as I explained before, the problem is that facility investment is subject to value-added tax which is not covered. Therefore, large and advanced treatment hospitals, which purchase large amounts of diagnostic and therapeutic equipment, suffer significantly.

In regard to Seirei Hamamatsu Hospital, when the value-added tax was 5%, the hospital paid about 400 million yen in value-added tax per year. When the tax went to 8%, that amount rose to 700 million yen. It is difficult to earn 700 million yen in ordinary income; however, we try our best to manage the situation. But what if it is raised to 10%? We will not be able to cover that much.

(Slide 20) The JHA considers it essential to resolve the contradiction of compensating for value-added tax with

Allocation of Financial Resources from Value-added Tax, and the Issues – FY 2014 Medical Service Fee Revision

- Compensate for the first visit and continual visits to hospitals
- No support for value-added tax on investment in highly-advanced medical equipment
- Although clinics receive significant benefits, that is insufficient for hospitals.
 - Four Hospital Organizations surveyed coverage.
- If the value-added tax is raised to 10% and hospitals need to compensate for value-added tax with medical service fees, it will create significant damage for hospitals.
 - Many hospitals will not be able to operate due to high investment costs.



Slide 19

JHA Concept of Value-added Tax

- It is essential to resolve the contradiction of compensating for value-added tax with medical service fees.
- Priority requests regarding the FY 2015 taxation revision (draft)

"It is necessary to review the exclusion of value-added tax on social insurance medical service fees and long-term insurance fees from taxation, and reform the current taxation system in which medical institutions and long-term care providers are required to pay tremendous amounts of value-added tax on items that are not excluded."

Slide 20

medical service fees. We want the government to review the exclusion of value-added tax on social insurance medical service fees and long-term insurance fees from taxation, and reform the current taxation system in which medical institutions and long-term care providers are required to pay tremendous amounts of value-added tax on items that are not excluded. However, the Ministry of Finance takes the attitude that they cannot do anything about it because they are short of funds. I guess that the Ministry of Finance may have gotten used to the situation because they successfully included value-added tax in the medical service fee system when it was increased to 8% in 2014.

■ Selections and decisions made by hospitals

● Shifting the concept of hospital management

(Slide 21) Under such difficult circumstances, it is extremely important for hospitals to consider the best way to handle the situation. If you are involved in hospital management, you first make mid- and long-term management plans taking into account the mission, value, and vision of the hospital, and follow the annual plan. You may use the balanced score card (BSC) as a management tool; however, it may not work.

Hospital management must consider how to respond to the changing medical environment, and review the mission, value, and vision of each hospital in accordance with their mid- and long-term management plans. Without reforming the structure, it is hard to respond to new systems. It is necessary to reform the structure in

cooperation with employees because the concept and plan should not be understood only by the top management, but be shared among all employees.

It is important to review the state of each hospital, including human resources, equipment, funds, and information. Information is a very important factor. Each hospital needs to understand the balance between medical supply and demand in the region where it is located. Based on such data, hospitals need to make strategies and plans, and check their consistency with the mid- and long-term management plans. If the manager hesitates to select and decide future direction of the hospital, the hospital must face difficulties.

● What is required for hospitals

(Slide 22) In preparation for 2025, as I mentioned before, we need to set a certain direction to follow by 2018. We do not have so much time left.

Paradigm shift is a common term in medical care system reform. Can hospitals really change? In fact, they did not change, or could not change even though they wanted to change. However, we cannot wait any longer.

Hospitals now need to decide whether they will maintain their 7:1 bed ratio or become highly-acute phase hospitals. I am still not sure what the definition of a highly-acute phase hospital is. It is also not good to use upgrade or downgrade. It may be fine to consider upswing or downswing. Anyway, hospitals need to select and decide which direction they will take.

Selections and Decisions Made by Hospitals — Shifting the concept of hospital management

- Existing hospital management
 - Mission
 - Values
 - Vision
 - Mid- and long-term plans/ Annual plans
 - Utilization of management tools: (e.g.) BSC
- Future hospital management
 - Response to changing healthcare environment
 - Review of the Mission • Value • Vision
 - State of the hospital: Human resources, materials, fund, information
 - Understanding of medical supply and demand in the region
 - Short-term strategies and plans
 - Consistency with mid- and long-term plans
 - Selection and decision: Survival of the fittest

Slide 21

Selections and Decisions Made by Hospitals — What is required for hospitals

- Preparation for 2025
- Paradigm shift
 - Can hospitals really change?
- Medical service fee system revision
 - Remaining as a 7:1 hospital
 - Aiming to become a highly-acute phase hospital
 - Aiming to become a comprehensive community care hospital
 - Aiming to become a recovery phase rehabilitation hospital
 - Aiming to become a 10:1 hospital
- Medical and Long-term Care Promotion Act
 - How do you functionalize your hospital?
 - Aiming to provide total healthcare? (including the care for pre-hospitalization, hospitalization care, home and long-term care)
 - Reform and integration of hospitals
- Clarifying the role of your hospital in comprehensive community care
 - Further fulfillment of regional cooperation
 - Visualization

Slide 22

If the hospital does not have a facility or ward for psychiatric inpatients, they seem not to be categorized as a highly-acute phase hospital, but as an advanced treatment hospital, university hospital, or a large-size hospital. Or each hospital tries to become a comprehensive community care hospital, or 10:1 or 13:1 hospital, or convalescent phase care hospital.

As I mentioned before, comprehensive community care is the key factor of the revision of medical service fee system. Therefore, it is an extremely important issue that hospitals include it in each system. There are only a few hospitals that have stated they would implement the comprehensive community care system before September. However, with regard to the All Japan Hospital Association (AJHA), our colleague, 1/3 of 2,400 member hospitals, which is about 800 hospitals, seems to have implemented the system. Compared with the JHA, the AJHA has more middle- and small-size hospitals, so their tendency is natural.

Meanwhile, the Japan Association of Medical and Care Facilities (JAMCF) also stated that they have provided long-term care and that their hospitals are capable of providing services specified as comprehensive community care.

Then, how about the JHA? I always say, “We don’t know yet.” Among the JHA member hospitals, core and large-size hospitals are planning to provide

comprehensive community care or establish themselves as comprehensive community care hospitals. Beyond the promotion of efficiency in management, if there is need in the region, it is alright for large-size hospitals to provide comprehensive community care. What we determine to do is based on the need in the region. I believe some of our member hospitals will implement the comprehensive community care system.

In regard to the Medical and Long-term Care Promotion Act, it is necessary to consider how hospital functions will be determined. As I mentioned before, we need to consider providing not only hospitalization and in-patient care, but also healthcare before actual treatment, and long-term care after treatment. We need to select and decide which care each hospital will focus on, such as integrated healthcare, pre-hospitalization care, hospitalization care, home-care, or long-term care. The JHA has quite a number of middle- and small-size hospital committee, which holds symposiums each year. According to the results of a questionnaire, a substantial number of middle- and small-size hospitals are providing pre- and post-hospitalization care as well.

Another issue is hospital reform and integration. This may apply more to local government-operated hospitals. Even the local government-operated hospitals cannot avoid facing reform and integration issues.

It is also necessary to clarify the roles each hospital plays in comprehensive community care. It is essential to make data and systems accessible to enhance regional cooperation. Visualization should not be limited to internal access, but also be expanded to outside hospitals. Team medicine also needs to be expanded to outside the hospital. Considering these things, we need to check the state of individual hospitals and select the best way to proceed.

● Paradigm shift in healthcare

(Slide 23) In the end, what we need is a paradigm shift.

Desirable healthcare

In the new paradigm, desirable healthcare is clearly stated as “high-quality and safe healthcare,” and healthcare for residents in each community.

Leadership

Healthcare has been led by the government, and we have simply done what they have asked us to do. The new

Paradigm Shift in Healthcare

	Old Paradigm	New Paradigm
Goal	Not clear	High quality and safe healthcare
Leadership	Administration	Cooperation in regions
Center of discussions	Theoretical macro data	On-site state micro data (accessible)
Classification of hospitals	Hierarchy	Functionalization
Incentives	Medical service fees Structure/ Process	Medical Care Act Medical service fees Outcome/ Value
Hospital management	Unclear Compartmentalized structure Continuation of management	Strong leadership Roles and cooperation among mid-level employees in management Selection and decisions

Slide 23

paradigm places importance on cooperation in each region as well as on government directives. Prefectural, regional, and municipal leaders, in particular, exercise significant power, and it is essential to consider the role we will play.

Center of discussion

The center of discussion has been based on macro data, which was obtained from answers to a questionnaire, which had a response rate, by the way, of only 10 to 20%. Statistically, this is unacceptable. On the other hand, the data was from 100,000 cases, which was statistically unnecessary. We need to discuss relevant data, and a sufficient amount of it, to address the issues we need to solve. In spite of such theoretical discussions, in the new paradigm, it is more important to have micro data and understand the actual state of hospitals and residents in each community. Hospitals have submitted their data to each prefecture and the Bureau of Health and Welfare in each region. The most common is DPC data. However, such data is not disclosed to us. DPC data is now limited to internal hospital use. The MHLW has been changing its attitude about this issue. Although there is also another problem to deal with, which is individual privacy protection, it is possible for hospitals to use data while protecting personal information. Making data and systems accessible will be extremely important.

Classification of hospitals

Hospitals have been classified into university hospitals, general hospitals, public hospitals, private hospitals,

large-size hospitals, and middle- and small-size hospitals. From now, it is necessary to have a new classification placing priority on hospital functions.

Incentives

We have incentives through the medical service fee system. However, medical service fee incentives are for structures and processes only. It is in fact difficult to evaluate the outcome. I think it is essential to have incentives through both the Health Policy Bureau, in accordance with the Medical Care Act, and the Health Insurance Bureau with medical service fees. Evaluation is required to determine outcome and value.

Hospital management

Hospital management is difficult to understand. Hospitals are made up of groups of specialists, and the system is often divided vertically. Medical service fees are paid by the government after physicians provide treatment. However, physicians are understandably less interested in hospital management than they are in treating their patients. They have their own data, but do not readily disclose it. For example, when an emergency patient who has injuries to his head and legs is brought to the Emergency Department, the orthopedician in charge might say that the patient should be seen by a neurosurgeon, and then leaves the Emergency Room. If the orthopedician thinks the patient needs to be seen by a neurosurgeon, he or she should contact one face-to-face or via telephone because both patient and nurses would be at a loss if the

orthopedician feels there is nothing he or she can do for the patient.

It is necessary to have comprehensive care physician; handling emergency care, which consists of primary, secondary, and tertiary care, needs to be an integrated department. I have high expectations for the potential of this new medical specialist system. However, I do not want any medical associations or universities to insist on the system they consider the best. What I want is to place priority on regions and patients.

Hospital management to date has been passed along as is from director to director. However, this will change. Even if the hospital survives, it is meaningless if the residents in the community are not satisfied with the care it provides. Therefore, we should not simply continue with hospital management that has been passed down. We need to assess changing conditions and make decisions.

Under such circumstances, physicians sometimes seem to avoid involvement in the hospital management. Hospital employees do not understand what directors and managers are asking them to do, and feel that the emphasis is on profit. For this reason, employees simply feel that

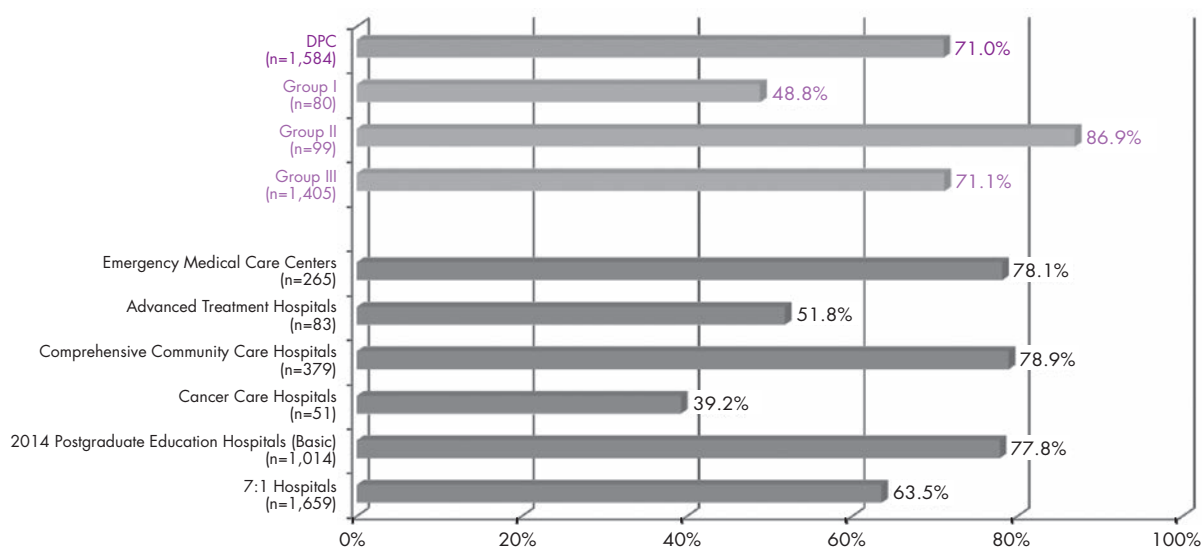
the management environment is lacking. This will not do as we move into the future. Everyone needs to be involved in management, not only top administrators, but also mid-level employees both in administration and co-medical care, including radiation, pharmacy, rehabilitation, and laboratory departments. Top management, therefore, needs to provide training to employees. The JHA provides such training. I hope more and more hospital personnel participate in this and bring what they learn to their hospitals and colleagues.

■ Roles and approaches by the JHA

(Slide 24) I would like to advertise JHA activities. Currently, the JHA has approximately 2,400 member hospitals. The JHA is thought to have more public and large-size hospitals among its membership, but this is not true. More than 60% of JHA member hospitals are private and middle and small-size hospitals. Although many public hospitals are large-size facilities, the JHA is not centered on large-size public hospitals.

Member hospitals have worked to play an important role in each region. For example, there are 265 emergency

Functions and Roles of JHA Member Hospitals — Ratio of member hospitals approved in each category



Source:
 Emergency Care Centers -(As of January 17, 2014) Japanese Association for Acute Medicine Website
 Advanced Treatment Hospitals -(As of January 1, 2012) MHLW materials
 Comprehensive Community Care Hospitals -(As of January 1, 2012) MHLW materials
 Cancer Care Hospitals -(As of August 1, 2013) MHLW materials
 Postgraduate Education Hospitals -FY2014 MHLW materials
 7:1 Hospitals -(As of May 1, 2013) Regional Bureau of Health and Welfare materials

medical care centers throughout Japan. Of these, 78.1% are JHA member hospitals; and 78.9% of comprehensive community care hospitals are also members. Although the ratio of cancer care hospitals and hospitals with specialized functions in the JHA is not high, they work hard to provide care in each region.

Among DPC hospitals in Japan (1,584 hospitals), 71.0% belong to the JHA. Group I is advanced treatment hospitals, so JHA accounts for a little less than 50%; however, JHA accounts for more than 70% of Group II and III hospitals.

JHA has extremely large issues to work on to make the healthcare system function not only for member hospitals, but also for the residents in each region and throughout the nation.

● JHA approaches – Further promotion of visualization

(Slide 25) JHA aims to make the system better considering our functions and roles in the medical industry. Promotion of visualization needs to be prioritized. We must collect and analyze sufficient data and make policy recommendations.

In addition, we also aim to be involved in Regional Healthcare Visions and Comprehensive Community Care,

which also requires the collection, analysis, and utilization of sufficient amounts of data.

Furthermore, the JHA is working to increase the number of branch offices it has in the prefectures and enhance cooperation with them or other hospital organizations where the JHA does not have branches. Decentralization has been promoted, and a wide range of projects have come to each prefecture or Regional Bureau of Health and Welfare. The JHA will make approaches to both prefectures and Regional Bureaus of Health and Welfare. We, of course, continue making approaches to the MHLW.

It is extremely important for the success of decentralization to have cooperation with prefectures in cultivating human resources. There is a need to shift hospital classifications from the existing categories to the new system; and we need to recognize that the JHA is not simply for public and large-size hospitals, but for all hospitals in Japan.

The JHA continues to work with related organizations to enhance systems for regional cooperation.

■ Conclusion

(Slide 26) As a hospital organization, we must hold on to the universal public insurance system. Japan has the

JHA Roles and Approaches — Further promotion of visualization

- Activities considering functions and roles of member hospitals
 - Collecting and analyzing sufficient data and making policy recommendations
- Involvement in Regional Healthcare Visions and Comprehensive Community Care
 - Collection, analysis, and utilization of data regarding supply and demand in healthcare regions
 - Enhancement of cooperation among branch offices and hospital organizations in prefectures
 - Making approaches to prefectures, Regional Bureaus of Health and Welfare, and MHLW, etc.
- Response to decentralization
 - Cooperation with prefectures in cultivating human resources
- Shifting hospital classifications from the existing categories to the new system
 - JHA is not simply for public and large-size hospitals, but for all hospitals in Japan.
 - Working with related organizations to enhance systems for regional cooperation

Slide 25

Conclusion

- We must manage the universal public insurance system.
- Japan has the most advanced deregulated healthcare system.
 - New Growth Strategy does not seem well suited to healthcare.
- Economic incentives induced by the medical care service fee system do not work.
- Reform focusing on individual regions has been successful.
 - There is a risk of expanding regional disparities.
 - It is necessary to confirm that the authority or the leaders and system itself are functioning appropriately.
 - The JHA's roles will become clearer.
- Value-added tax is a matter of taxation and needs to be returned to the original condition.
- Both policymakers and healthcare providers need to change.
 - The role of JHA will also change in line with the changes in hospital functions.
 - It is important to share the concept of integrated healthcare that includes medical care and welfare.

Slide 26

most advanced deregulated healthcare system. However, the New Growth Strategy that Prime Minister Abe has set forth does not seem well suited to healthcare. Perhaps it is possible to achieve the goals of the administration's strategy through globalization with unified cooperation among the healthcare, pharmaceutical, and engineering industries, but I think it is impossible to achieve their goals through the healthcare industry alone.

We have already learned that economic incentives induced by the medical care service fee system do not work; therefore, we need to consider this issue well. We need to choose the best system among the wide range of proposals that have been made considering the future possibilities.

Reform focusing on individual regions has been successful although prefectures and municipalities need to exert greater effort to avoid regional disparities. It is necessary to confirm that the authority of the leaders in each local government and the system itself are functioning appropriately. In this area, the JHA's roles will become clear.

The value-added tax that is scheduled to rise to 10% is a tax matter, which needs to be returned to the original conditions.

Both policymakers and healthcare providers need to change. In response to conclusions made at a meeting of the cabinet on June 18, the MHLW is also pushing significant reforms. One of these is personnel change in line with the content of the Medical and Long-term Care Promotion Act. The position of the Deputy Director-General of the Healthcare and Long-term Care Services was newly established. There were only three Deputy Director-Generals at the MHLW. This reform increased that number to six, with one in being placed in charge of healthcare and long-term care services. This position was established to unify the handling of healthcare and long-term care, which I regard as a very positive development. The JHA and other hospital organizations should also cooperate with the JMA and MHLW to establish better systems.

Another change is the establishment of the Department of Healthcare and Long-term Care Collaborative Policies at the MHLW. I am pleased to know that the MHLW has finally become serious about this.

The MHLW, which is in charge of policy makings, indicates its intention to reform. Healthcare providers, especially hospital organizations, need to change as well. The JHA's role will change in line with the changes in

hospital functions. Under such circumstances, I believe that it is important to share the concept of integrated healthcare that includes medical care and welfare.

The Importance of a Rigorous Root Cause Analysis (RCA) for Healthcare Sentinel Events



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“For want of a nail the shoe was lost, for want of a shoe the horse was lost, for want of a horse the knight was lost, for want of a knight the battle was lost, for want of a battle the kingdom was lost. So a kingdom was lost—all for want of a nail.”

-JLA: The Nail (DC Comics, 199)

*Also attributed to Benjamin Franklin.

It is unfortunate that we are not immune to unanticipated adverse events occurring in hospitals in spite of considerable efforts during the past decade to improve patient safety. We seemed to have struggled with terminology regarding these events, trying to avoid calling them mistakes or accidents. We seem to have preferred terms like occurrences, events, near misses, and incidents as they are less indicative of errors. The most serious ones today are termed sentinel events. The simple definition of a sentinel event is the unanticipated occurrence in a healthcare setting of a death or permanent loss of a major body function. The key word here is unanticipated. Healthcare delivery is complex and always carries with it some degree of risk. Through the informed consent processes, patients are told about the anticipated risks, benefits, and alternatives associated with their medical care, and based on these explanations they can decide whether to agree to the medical care, decline it, or seek an alternative or second opinion. There is a vast amount of evidence collected locally, nationally and internationally on mortality rates, complication rates, and infection rates, and these often serve as the basis for informed consent discussions for procedures and surgeries that are high risk.

With the huge amount of data collected in hospitals and the almost real time reporting of incidents, it would

be or should be impossible for a possible sentinel event to go unnoticed by the senior medical leadership and the Chief Executive Officer (CEO). This is the time to take action. The action that needs to be taken initially, in my opinion, is to decide if the incident that was reported or discovered met the broad definition of a sentinel event, and if so, a decision is usually made declaring/classifying it to be a sentinel event and requiring a Root Cause Analysis to be performed within a defined period after declaration. I think in order to get to a decision, the CEO or his delegated representative should appoint, in writing, a physician not related to the specialty involved with the occurrence to conduct a preliminary investigation to determine if the occurrence should be declared a sentinel event. In the appointing letter, it should be stated that the purpose of the inquiry is only to determine if the occurrence meets the definition and to provide the rationale for recommending a declaration or exclusion. The physician should be given five days to reach a decision, and submit his or her report in writing. It should be stressed that this is a primary duty, a priority, and no extension of the five-day period will be approved. If the physician does not recommend classifying it as a sentinel event, it is the end point should the CEO concur, and can be followed in the normal process of incident reporting analysis. An RCA (Root Cause Analysis) can still be an option at this point.

If the appointed physician reaches the conclusion that the occurrence met the definition of a sentinel event, and the CEO concurs, an appointing letter should be prepared to a team, consisting of the appointed physician, an experienced nurse, and an administrator and/or an allied

health provider. These team members should be required to complete an RCA within a defined period. The Joint Commission requirement for completion of an RCA for a sentinel event is 45 days. A key point is that this needs to be done on time with a defined deadline. When talking with my colleagues in Japanese hospitals, many misunderstand the requirements of an RCA, thinking that it can be completed within a few days by a nurse (typically) by looking at the medical record and asking a few questions. There is often a sense of urgency to get it done, and filed as quickly as possible. This is not the intent of an RCA, which is to leave no stone unturned in determining the reason(s) for the occurrence.

Many organizations worldwide, including Japan, are familiar with RCA. Hospitals in Japan seem to be less familiar with the requirement when compared to manufacturing or industry. Basically an RCA is effective at identifying what happened, how it happened and why something occurred, with the intent of preventing future occurrences, if preventable. These root causes are underlying reasons that can be easily identified and can be controlled/managed by implementing recommendations for improvement, mitigation, or elimination. The reason a good RCA takes time is that it involves data collection, causal charting in many instances, staff interviews, literature searches, and precise identification of root causes (real reasons) that can result in recommendations and implementation of changes that will minimize or eliminate recurrence. I think the 'what' and 'how' aspects of an RCA are important, of course, but it is the 'why' that is critical to determine. Only when we get to the 'why' can we put in place corrective measures to prevent recurrence. For simple RCAs, many of us have heard of the five whys. It is kind of a 'drill down' until you get to the real underlying (root) cause(s). A sentinel event RCA in a hospital is much, much more complex and could involve more than a hundred whys as the RCA proceeds.

In looking for root causes, what are we actually looking for, or in other words, what exactly is a root cause? I think that root causes have certain characteristics. First, they are underlying causes of error that are specific, but not necessarily the main cause of error. However, there will almost always be one or more that are clearly responsible. Secondly, they should be reasonably apparent given a rigorous RCA and these can be identified without too

much difficulty. Thirdly, these causes must be something that are within our control to correct. This is important, because we cannot control or correct things that are beyond our control. These should be identified, but they are not root causes, but secondary and contributing causes, in my opinion. And lastly, there must be solutions recommended that could reasonably be implemented. A successful RCA will contain recommendations for effective corrective actions that are within management's control to implement.

Many, many years ago, when I worked in a hospital in the United States, I was responsible for monitoring the progress of RCAs when sentinel events occurred or when the hospital felt that the occurrence was a potentially compensable event if litigation were to be pursued. I was on many teams that conducted the equivalent of RCAs. I was assigned to almost all the sentinel events that involved a patient's death. I would like to suggest a model that it is a very effective method for conducting an RCA, although there are many other effective models.

The RCA should always start with a dated appointing letter from the CEO or his delegated representative. While there is no rigid format, it should contain the following.

- Reference to the preliminary inquiry appointing letter, its recommendations, and concurrence by the CEO.
- The full name of the physician, nurse, other allied healthcare professional and or administrator being appointed, with indication of who is to be the team leader as teams perform better than individuals, and a multidisciplinary approach is usually the most effective.
- The complete medical record must be secured, including all components, by the team leader.
- A non-extendable specific date, preferably 45 days or less, for completion of the RCA.
- A mention that this is a primary and priority duty, not a secondary or collateral duty.

The format shall consist of three parts.

● Findings of fact (FOF)

For each finding of fact there must be evidence in the form of an enclosure(s). This could be a page from the medical record, a witness statement, a summary of an interview, etc. Each finding of fact (FOF) shall be separate and numbered.

Examples:

FOF8 – The surgical site (right leg, above the knee) was not marked prior to surgery as required by hospital policy. See enclosures (1), (3), and (9).

FOF16 – The surgeon of record arrived late and said he was in a hurry to start this case, stating “let’s go people!” See enclosures (19), (20) and (21).

FOF22 – The left leg was amputated three inches above the knee. See enclosures (25), (27) and (31).

● **Opinions (OP)**

Each opinion (OP) shall be numbered and must be supported by one or more numbered facts.

Example:

OP6 – The surgeon of record arrived at the hospital the night before this surgery after attending a surgical society meeting out of town (FOF21), and said his fatigue had resulted in his forgetting to mark the site, as was his usual practice, during his evening rounds. Fatigue is a probable underlying reason (root cause) for failure to mark the surgical site and was a significant underlying reason (root cause) for this wrong site surgery. See FOF16. Question – Can we control this? We now know why the site was not marked (a root cause). There were three opportunities to ensure that correct site surgery was confirmed, and all failed in this case to prevent a wrong site surgery. The first was the requirement to mark the surgical site by the person performing the procedure as well as involving the patient in the marking process. Fatigue is considered to be one root cause. Second, the failure to use a checklist during the preoperative verification process that documents, among other things, that the correct site was marked and verified (FOF11, 12, & 13). We still need to ask why. The late arrival of the surgeon and the pressure to begin without completing the required preoperative verification process is another root cause (FOF16). We still need to ask why. Next, the failure to conduct a time out procedure in the operating room, as required, which has as a required component, verification of the correct surgical site, which includes site marking, is a serious failure (FOF 14, 16, 19). We still need to pursue further and ask why.

● **Recommendations (REC)**

Each recommendation (REC) shall be numbered and must be supported by one or more numbered opinions.

Example:

REC1 – It is recommended that... See OP6. What can we recommend to ensure that surgical site marking is ‘failsafe’?

The above example of Findings of fact, Opinions, and Recommendations are, of course, fictitious, but are provided to stimulate your thoughts on how RCA teams determine root causes and methods to prevent recurrence. In this hypothetical wrong site surgery example the removal of the wrong leg, resulting in a permanent loss of a major body function was the sentinel event. (Think about what recommendations you might consider making based on this limited hypothetical example – or other whys you would ask.)

A causal chart may be included but is not required. If included, it is not a finding of fact, but a supportive document.

Note any difficulties or limitations encountered in completing the RCA.

Findings of fact identify causal factors but usually don’t tell us why. This is data collection. These should not be in dispute and need to be backed up by evidence. They lead to root causes. Opinions are the important ‘why’ component. Because these are supported by findings of fact, they become the underlying reasons (root causes). The opinions paint a strong image of why something unanticipated happened. Once we know what happened, how it happened, and why it happened, we are in a good position to make recommendations to prevent recurrence.

Once the RCA is completed, the CEO approves or disapproves the recommendations and signs the report. By approval, responsibility for implementation of the approved recommendations and follow up to make sure the recommended actions are implemented are assigned. The CEO then briefs the board of governors, at least every six months (or more frequently), on the number of sentinel events and the actions as the result of completed RCAs. This is also a Joint Commission requirement.

I think it is important to give recognition to those who perform RCAs for sentinel events. It is not easy work. The work done by these teams almost always results in improvement in care and results in significant safeguards that protect future patients. I believe this should be noted in performance evaluations and should be considered when promotional opportunities arise. Completion of an RCA is not a “witch hunt” or looking for bad apples. It does not replace whatever other investigations might be in progress.

It is a document, internal to the healthcare organization for the purpose of improving care. In supporting a culture of safety, those interviewed or involved need to know that the focus or result is not punitive. I believe that everyone involved in preventable patient harm or death feels terrible guilt and truly wants whatever caused the occurrence to be clear. They need to know why it happened and how it will be prevented from happening again. It is my opinion that that the vast majority of sentinel events are system problems and not people problems. Competent people working in a bad system was a cause of failure in most of the RCAs that I completed. There are, unfortunately, exceptions.

While the results and conclusions contained in the RCA go to the CEO for concurrence and action, there is a great opportunity to share findings in a generic or summarized fashion to the entire staff. If lessons learned are closely held and only available to senior leadership and those involved, we miss that chance to share findings with other departments that might have similar circumstances. A time out and surgical site marking failure in the main operating room, has implications elsewhere where time out is performed and surgical site marking outside of the operating room is required. The more staff exposed to improvement opportunities, the safer the organization becomes.

In my experience, the family of a patient who suffered a sentinel event deserves honesty. They should be told that the occurrence was deemed a sentinel event and that the hospital has an effective mechanism for determining the cause. They don't need the jargon of the sentinel event nor RCA, but they need to know that an internal investigation was convened and will be completed within 45 days. They need to know that it is not a substitute for other investigations that might occur, and the focus is to ensure that the cause(s) for this occurrence will undergo analysis and form the basis of corrections, if indicated. They should also know that as part of the hospital's culture of safety, the internal investigation's focus is not punitive and that the report is not provided externally. If the focus were to be punitive, or released externally, it would make staff reluctant to be forthcoming about reporting occurrences. Most hospitals I know do not provide a copy of the report to the patient or his family, but usually will discuss it with them. Of particular importance is the expression of remorse/regret for what happened. It is my opinion that an apology is not an admission of guilt. Assurances that

mechanisms and procedures have been implemented to prevent a recurrence are most important, if the analysis recommends them.

To make sure that I am not misunderstood, I am not advocating, suggesting, or recommending that the RCA be made available to the patient or his family. I am only suggesting that the patient and or family know that a thorough review regarding the unanticipated outcome is being accomplished in a timely manner, and I also recommend that a general discussion of the conclusions reached and the decisions made as a result, be discussed with them. If a patient or family member feels that nothing is being done, and they are not being provided any information, the likelihood of litigation increases. The hospital can be reclusive, secretive and reactive, or it can be proactive, transparent and cooperative. I recommend the latter. It has been my experience that courts act more favorably towards the hospital when circumstances show that the hospital took early action to determine the root cause(s) of the occurrence and implemented corrective actions to prevent any similar occurrences and cooperated with the patient or his family in the process. The hospital's decision must be closely coordinated with its legal counsel. If the RCA is not protected as an internal document to the hospital and is deemed a discoverable document in the case of litigation, it will surely result in a reluctance to report these events.

At the time of submission of this article, there is considerable interest in a proposed change in the Medical Service Law in Japan that will go into effect in October 2015. This law will address requirements for reporting unanticipated deaths to an organization designated by the Ministry of Health, Labour and Welfare for analysis. It may require disclosure to surviving family members whenever an unanticipated death results from medical care. Depending on actual requirements, this can be very problematic for hospitals. There is always concern regarding disclosure that might lead to presumptions of guilt or innocence, retributions, sanctions and or punishment and if without a legal framework to protect against self-incrimination, will certainly make medical personnel reluctant to report errors. There is the fear that the patient's family may use the investigation results by the hospital and or this third party to pursue litigation. This change should be followed closely. It is recommended that an RCA proceed separately from whatever requirements

are established by this new law, as they have separate, but complimentary purposes.

As background in the United States, which has significant malpractice litigation compared to Japan, I'd like to cite two instances of the type of protection needed for RCAs. First, The Supreme Court in the state of Delaware "reviewed *Office of the Chief Medical Examiner v. Dover Behavioral Health System*, 976 A.2d 160 (Del. 2009), and a decision was rendered in June 2009. The issue in this case was whether documents created for a health care facility's internal or peer review of an adverse event are discoverable by agencies investigating the adverse event. The Delaware Supreme Court held that documents created for peer review are privileged and need not be turned over to investigating agencies if subpoenaed. The case addressed public policy favoring unfettered discussion between medical providers in reviewing and assessing practices within medical facilities" (See above citation). The second, more recent case was in the State of New Jersey in 2014. The New Jersey Supreme Court on Sept. 29 upheld a hospital's right to maintain the confidentiality of internal review reports written after adverse events, saying confidentiality ensures health care workers will be more forthcoming and candid when errors are made. They said "Patients who sue a hospital for medical malpractice are not entitled to records documenting the hospital's internal examination into what went wrong, the state Supreme Court has ruled, upholding a 2004 law intended to encourage medical professionals to learn from and prevent future mistakes.ⁱ Almost every state in the United States has passed similar legislation protecting internal reviews of care as privileged and not discoverable. It is my opinion that if we are to foster learning by our mistakes and honestly reporting them for internal review, we need similar protection. It is also noted that generally, the results of aircraft crashes completed by the National Transportation Safety Board in the United States are inadmissible as evidence in a court of law.ⁱⁱ

Also at the time of preparing this article, there were media reports of a series of patient deaths in a university hospital in Japan related to laparoscopic liver surgery. The mortality rate for these surgeries was said to have

been eighteen times higher than that average of hospitals reporting this information. Between 2010 and 2014 eight patients died within four months of undergoing surgery conducted by one surgeon. It is presumed (because I do not know) that these deaths were unanticipated, and would have been classified as sentinel events, and an RCA would have revealed a number of critical root causes that have only now come to light. How a hospital can be unaware of an eighteen-fold difference in mortality rates is truly disturbing. The surgeon in question also falsely reported on a diagnostic report for insurance claims that the patient had cancer when in fact the patient did not have cancer. It is not surprising that after the hospital completed its interim report in December of 2014 that it "found common errors across all cases mentioned in its final report".ⁱⁱⁱ

Every sentinel event is an opportunity to determine if we can provide care more safely. An RCA or its equivalent is one of the very best tools for understanding the what, how and why questions that are essential to make recommendations for improvements. There are many examples of effective methods to evaluate the appropriateness and safety of medical care, and I hope that when faced with a sentinel event, that an RCA will be primary tool that you reach for. And, hopefully when you reach for it, that there will be protection from discovery should there be malpractice litigation. If not, the opportunity to determine root causes will be obstructed by fear of recrimination for those reporting these events.

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Opinions expressed are that solely of the author.

ⁱ <http://www.njlawjournal.com/id=1202671725946/Hospitals-Internal-Error-Reviews-Not-Discoverable-Court-Says#ixzz3W2iITBYj>

ⁱⁱ <http://www.avweb.com/news/avlaw/181884-1.html>

ⁱⁱⁱ Japan Times, 3 March 2015

A Healthcare Economist's View of Abenomics: Can “Gambling” Economic Policy Work?



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December 2014, the House of Representatives was dissolved for a general election. With one strong party, a number of weak parties and low voter turnout, the situation was similar to 2012; and the Liberal Democratic Party (LDP) won a wide majority. On the other hand, the total number of votes for the LDP has dropped three times since the House of Representatives election in 2009. The LDP garnered 27.3 million votes in the general election for single-seat districts, but lost power when the Democratic Party of Japan (DPJ) managed to attract more votes. The LDP received only 25.64 million votes in single-seat districts in the 2012 general election, but regained control of the government when the DPJ self-destructed. In the 2014 general election, the LDP took in 25.52 million votes, 0.12 million votes less than the previous election. Although the total number of votes for LDP dipped, the voter turnout also dropped and the LDP ended up with twice the number as the DPJ took in.

Compared with the 59.32% voter turnout for the 2012 election, the number of registered voters that showed up in 2014 plunged by almost 7 million. A near majority of eligible voters stayed home, which helped LDP win.

The LDP's economic policies consist of dramatic monetary easing, a robust fiscal policy, and policies aimed at spurring private investment. Now, these uncertain so-called gambling policies are being evaluated by the public. Are they really the only path open to Japan?

The LDP stumbled with the pension record debacle and forcing a healthcare system on the elderly. Although no one thought the Abe Administration would recover, the policies that make up Abenomics brought about a certain increase in stock prices and tax revenue. The nominal gross domestic product (GDP) between October

and December 2012, when the Abe Administration took office, was 470 trillion yen. After increasing to 487 trillion yen between January and March 2014, it dropped as a result of the consumption tax hike in April 2014, bringing the annualized amount of 483 trillion yen.

■ Nominal GDP shows no increase

The peak nominal GDP was between October and December 1997 at 524 trillion yen. In April 1997, the consumption tax was raised from 3 to 5%, and Yamaichi Securities Co., Ltd. filed for bankruptcy protection in November. From 1997, the nominal GDP ceased to increase, and Japan entered a long period of deflation soon after.

In the 2000s, Prime Minister Junichi Koizumi attempted structural reform, which helped the economy grow temporarily; but it was not enough to counteract deflation, and nominal GDP was sluggish. The nominal GDP improved to 515 trillion yen between April and June 2007; however, it failed to gain from there. That was the 1st Abe Administration.

Soon after that, the Abe Administration fell apart. This was followed by Lehman's fall in 2008 and the Great East Japan Earthquake in 2011. The most recent nominal GDP low was 464 trillion yen, between April and June 2011, which is 50 trillion yen less than the peak at Lehman's fall.

With such shrinkage in the economy, Japanese tax revenue drops and finances deteriorate. Although economic growth alone cannot correct the financial state, it is impossible to improve without growth in the economy. No increase in real wages is the problem. Local areas at the risk of disappearing due to decreasing populations, in

particular, are significantly impacted. However, we should not leave the situation with the nominal GDP significantly lower than it was before Lehman's fall or when the consumption tax was raised from 3 to 5% tax in 1997.

LDP leader Shinzo Abe said during the previous general election that the party would recoup the 50 trillion yen that had been lost. However, the 483 trillion yen GDP in the recent period improved only by about 20 trillion yen. During the second quarter after raising the consumption tax, it dropped again.

■ It's not real!? Reflationary economy

Japan is facing a decline in birth rate and an aging of its population never before experienced. In order to meet its social security obligations, increases in consumption tax are inevitable; however, it is hard to overcome deflation. Consumer price growth excluding the rise in consumption tax in October was less than 1%.

When oil prices decrease, domestic commodity prices decrease. In fact, gasoline prices decreased, which reduced fuel costs and power rates. If some commodity prices decrease, consumer prices, which represent average commodity prices, do not increase. While many people believe this, however, the reflationary economy that the Bank of Japan supports goes against this theory.

The reflationary economy is based on the idea of expectation that when oil prices decrease, gasoline prices and power rates also decrease. In response to this, consumer and company expenses for other commodities and services increase. As a result, the prices for other commodities and services increase. Therefore, general price standards, which are the average prices of all commodities, do not decrease.

This concept, called monetarism, was first explained by Milton Friedman. It is nothing but a reflationary economy, which is the basic financial policy advanced by the Bank of Japan.

However, in order for such a policy to increase money and to function as expected, the quantity of money should determine price standards. The target of the Bank of Japan is to increase commodity prices by 2% for 2 years. The time limit has drawn near. During this period, the availability of money has increased, but oil prices have decreased.

We still do not know if general price standards are really determined by money supply.

■ Coping with both social security reform and financial discipline

However, social security reform cannot wait any longer. In 2025, the postwar baby-boom generation will be 75 years old. It is essential to review healthcare for this generation because costs will grow and will be difficult to restrain while pension increases will be relatively small among all social security expenses. Comparing the growth of GDP and national medical expenses, medical expenses have increased in spite of sluggish economic growth since the 1990s, and the differences have become larger. It is difficult to raise taxes and health insurance premiums without a certain level of economic growth. The government launched a policy that prioritizes care for individuals with serious disease or those requiring a high level of nursing care, and it established an income-based medical insurance premium system. However, discussions about medical insurance reform stopped, perhaps because of the impact those discussions might have on the general election. Whatever the reason, it is not wise to leave these issues unresolved. How will the government compensate for social security costs after putting off another raise in the consumption tax? The government currently covers the shortfall with national bonds. Unfortunately, not only will this not solve the fundamental problem, but it will also serve to worsen the nation's declining birth rate. Are tax revenues really being used only for social security? The government should have been open about the actual costs of social security and asked the nation's citizens to understand the need to raise taxes. In fact, it is also possible to consider health and welfare as social common capital; however, this would require the use of a quasi-market that generates efficient, high quality services with private insurance benefits and balanced billing for care because it is impossible to depend on public assistance.

■ Required wisdom

Fortunately, the subscription rate for private insurance has reached 143.88 million policies and the total amount insured by life-insurance companies is 857 trillion yen (Trends of Life Insurance 2013). The policy that many private health insurance companies covering *the big three* (cancer, heart attack and stroke) have set for payment for stroke and heart attack are more severe than for cancer. Generally, payment is made only when the patient has difficulty speaking or is unable to work for 60 days or

longer after falling ill. Individuals hospitalized less than 60 days are not eligible for payment.

On the other hand, accident insurance offered by foreign-affiliated life insurance companies generally provides a one-time payout of one million yen when the insured individual is hospitalized for stroke or heart attack. Japanese insurance plans with such a straight-forward and simple policy regarding *the big three* illnesses are rare indeed. Such plans are good for individuals in their 30s or 40s. This age group is usually more concerned with life insurance, though they should be thinking more about serious illness that might prevent them from being able to work.

The Japanese government has injected human and material resources into acute care to shorten the period of hospitalization. The government is also working toward forming a community care system through the establishment of networks among hospitals, home healthcare, and nursing care services. My guess, though, is that the government's plan will result in patients being shuttled from hospital to hospital, and that the number of patients who are found dead at home will rapidly increase. In order to prevent Japan from becoming a tragic welfare state, it is necessary to effectively utilize *Big Data* and the new Social Security and Tax Number System that is scheduled for implementation to make medical and nursing care system transparent, and ensure a certain level of preparation for changes in the system.

■ Concern about public works

I am also worried about the “robust” fiscal policy portion of Abenomics because construction-related costs such as material and labor has been increasing along with demand related to reconstruction following the earthquake, and new construction for the upcoming Tokyo Olympics. The lack of human resources has become a serious problem, and the effective ratio of job offers to job seekers in construction and civil engineering is significantly exceeding other industries. As a result, some public works included in the budget failed to attract bidders and some experienced schedule delays after orders were sent, both of which have thrown cold water on favorable economic circulation, and so with medical and long-term nursing care facilities.

In regard to the government's seasonally adjusted fixed capital formation reflecting public-works spending

between April and June 2014, nominal GDP increased 2.4% from the previous period; however, real GDP increased a mere 0.9%.

Learning from the serious crisis caused by the tax increase and fiscal structural reform in 1997, public works between April and June of 2014, prior to the tax increase, were expected to soften the swing in demand. However, it was a failure. Public works could not stop the significant drop in real GDP.

After the price hike following the first oil crisis, while the government's fixed capital formation in relation to nominal GDP expanded by more than 10% from the previous period, real GDP decreased by more than 10%.

Few people, though, point out the waste of money in public works. In order to regain favorable economic circulation in Japan, whose financial deficits have significantly expanded, it is essential to review the mistakes in budget and establish a framework to realize more effective fiscal policy.

Japan now faces the need to implement the project management/ construction management concept, which has been already common in the rest of the world.

■ Numeric targets stripped of all meaning

The final target, policies for growth to spur private investment, has already been stripped of all meaning. I participated in the creation of the medical and long-term care portion of the revised Japan Revitalization Strategy published in June 2014. In the end, however, it was rewritten by bureaucrats in Kasumigaseki for their convenience.

In fact, it is important to set numeric targets. It is essential to have specific targets because it is hard to advance projects only with abstractions. However, focusing on numeric targets may sometimes adversely affect the achievement of actual goals behind those targets.

The numeric target for promoting women to executive positions is an example. According to the Quarterly Journal of Economics 2012, the measures for promoting female entrepreneurship implemented by the Norwegian government 10 years ago resulted in a significant drop in stock prices of listed companies. What was needed was to create an environment in which capable female employees are properly evaluated rather than merely increasing female entrepreneurship.

The goals included in the basic comprehensive plans made by local governments are also ill-prepared. There are some cases in which they simply set numeric targets without considering the effects of their policies. In such cases, achievement of the numeric targets is deemed a success even if nothing actually improves.

A typical example of such cases is tourism policy. The focus tends to be on the number of tourists, which increases the number of tourists visiting through cheap package tours and does not bring profits to individual areas. If you seek economic effects, you should not try to increase the number of visitors, but try to increase spending per person. In addition, you should take measures that lead to economic effects not focusing on the number of visitors, but focusing on the number of overnight stays.

■ Medical tourism is increasing?

The same holds true for medical tourism. The Japan Revitalization Strategy (Revised) sets the goal of increasing the overseas medical technology and service market to 1.5 trillion yen from the current 0.5 trillion yen by 2020 through the establishment of 10 medical bases in emerging countries. Medical Excellence Japan (MEJ) is a general incorporated association established to promote international understanding and improve the quality of medical care through internationalization projects for Japanese medical care and international cooperation in medicine. MEJ projects consist of three major pillars: the acceptance of patients from abroad for testing and treatment (inbound projects), the export of Japanese medical care, devices, services along with a scheme and units for such a system (outbound projects), and the cultivation of human resources, the provision of information, PR, and collaboration with related corporations, organizations and government agencies to promote both inbound and outbound projects (education projects, etc.). Considering the Japanese government strategy of gaining infrastructure orders through cooperation among government, universities, and the private sector throughout Japan, and support from 30 trillion yen (currently 10 trillion yen), the scale of the medical care and service market is small at 1.5 trillion yen, which is one twentieth of the entire market.

■ Weak inbound medical tourism

The current state is not great. According to the numbers provided by the Development Bank of Japan, the economic effect of medical tourism will amount to 282.3 billion yen in 2020. They expect that medical tourism alone, excluding traditional tourism, will bring 425,000 patients and 168.1 billion yen. The reality, though, seems far from that.

The MEJ website for overseas patients has been translated into English, Chinese, and Russia (Arabic will also be included). However, the total number of requests for information packets during the 23 months between January 2011 and November 2012 was only 796. There were 1,971 inquiries, but according to the Nomura Research Institute, Ltd., the number of individuals who visited Japan for treatment during the same period was only 233.

In response to this, the Japanese government decided to allow overseas physicians to practice in National Strategic Special Zones through the Joint Commission International (JIC) accreditation system. However, I wonder if overseas physicians are willing to resign their current positions and come to Japan. I am sure that people from abroad working in Japan would prefer highly-qualified local physicians over less qualified physicians coming from their home countries. In fact, business persons from abroad worried about their health would not come to Japan to work. Those who do come are basically in good health. I don't know how many people from abroad are living in the National Strategic Special Zones, but I cannot imagine there are so many people from abroad needing to visit physicians from their home countries every day. I do not think that this project will pay the costs of bringing in physicians from abroad.

There are only eight JCI-certified facilities in Japan as of 2013 capable of providing global standard medical care. Korea has 39 and Taiwan has 24 JCI-certified facilities; however, they did not use the JCI system for business purposes. According to OECD Health Data (2009), while the United States takes in 170 billion yen from medical tourism, Korean patients are spending 7 billion yen abroad on medical tourism. This is because medical tourism in Korea is limited to plastic surgery, check-ups, and treatment with Chinese and Korean medicine. Hysterectomies and knee joint replacements are more expensive than in Japan.

■ Outbound filled with subsidies

On the other hand, outbound medical technology and care are also not reaching the expected levels. The export of Japanese-style care by medical institutions and private providers is promoted by the Ministry of Economy, Trade and Industry (METI). In FY 2012, a total of 22 internationalization projects for medical devices and services, including remote pathological diagnosis services provided by the Peking University Shenzhen Hospital (China), which collaborates with the Japanese Foundation for Cancer Research, and a project aimed at the introduction of Japanese-type dialysis centers in Thailand by Jinyukai Association.

The METI has evaluated five projects implemented in three countries, including advanced medical services and an education project in Cambodia provided by Kitahara International Hospital, and diabetes treatment services being offered in China by Terumo Corporation and the University of Tokyo. With these 17 new projects that were additionally adopted, a total of 22 projects, including projects that have continued since FY 2011 in 10 countries, are being evaluated for sale of Japanese-type medical treatment overseas.

What is important is the results. Unfortunately, the results are too far from expectations. There are only a few scattered outposts, making these projects more like market surveys than viable services. It is still unknown how competitive the Japanese medical and nursing industry is in the global market. If Japanese government does not take drastic measures, no good results can be expected.

■ Is agriculture a growth industry?

The sixth-order industrialization platform in agriculture, forestry and fishery promoted as a growth industry, as healthcare is, is the same. The sixth-order industrialization means to promote revitalization of agriculture by combining traditional primary industry (1), such as cultivation, with secondary industry (2), such as the processing of cultivated ingredients, and tertiary industry (3), such as the retailing of agricultural products, aiming to produce synergetic effects (1+2+3=6). In order to generate economic benefit, we need to consider more than just formal requirements. It would be much more effective to concentrate on important projects that can be expected to lead to business expansion than it would be to focus on a large number of projects.

It is of course good to see an improvement in the ratio of jobs to applicants in agriculture; however, it must be expected if we consider the decrease in the working-age population. The issue we need to consider is the imbalance in supply and demand, and for this reason, it is more important to cultivate human resources to meet the needs of the society.

Recently, all these projects tend to focus on short-term numeric targets. Numeric targets are only a part of the end goal. We need to discuss content.

■ Future need for dental technicians

University of Oxford, England published “The Future of Employment,” in which the probability of computerization of 702 specific occupations was estimated based on data provided by the U.S. Bureau of Labor Statistics. The results were shocking. Approximately 47% of all US employment is at risk. Associate Professor Michael A. Osborne, who studies artificial intelligence (AI), estimated that almost half of our jobs will be taken over by computers. The paper, “The Future of Employment – How susceptible are jobs to computerisation!” by Osborne and Oxford Research Fellow Carl Benedikt Frey is attracting attention.

Specifically, they extracted nine indicators of bottlenecks to computerization, including finger dexterity, fine arts, negotiation, and persuasion, and evaluated 702 specific occupations.

Among these 702 specific occupations are orthodontists and prosthetists. Also included are compensation and benefits managers, bookkeepers, accounting, and auditing clerks. Sooner or later, dental technicians and medical administrative clerks may be unnecessary. Insurance appraisers and database administrators were also examined and there is a possibility of computerization in both these occupations.

In Japan too, the robot market is currently 900 billion yen; however, it will reach approximately 3 trillion yen in 2020 and 10 trillion yen in 2035.

■ The key is improvement in productivity.

According to the Ministry of Health, Labour and Welfare (MHLW), the labor shortage in long-term care providers will be 300,000 in FY 2025, when the elderly population will be at the peak.

The number of individuals engaged in long-term care, including part-timers, was approximately 1.77 million in FY 2013. In spite of the heavy labor required, wage standards are low, which leads to a chronic shortage of personnel. The MHLW reported that the effective ratio of job offers to applicants in long-term care services in November 2014 was 2.51, which is more than double other industries.

Meanwhile, the number of the elderly requiring long-term care is approximately 5.64 million, including those who require minor long-term care. In 2025, when the baby-boomers turn 75, this number will expand. MHLW estimates show approximately 2.5 million long-term care workers will be needed. The Japanese government reports that 1 million more long-term care staff than were employed in FY 2012 will be needed. However, local government estimates show that 2.2 million long-term care staff will be needed in FY 2025. The number of long-term care staff will increase by approximately 700,000 from FY 2012; however, government estimates are still 300,000 short.

In order to cover the shortage, the MHLW decided to increase the wages by an average of 12,000 yen per month. However, this revision will result in a negative 2.7% in overall compensation for long-term care services.

In the year of the 70th anniversary after the war, Japan needs to find a solution for this issue with the establishment of an excellent framework that will increase individual productivity.

Risk Factors and Social Background Associated with Suicide in Japan: A Review



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Keywords: suicide, depression, crisis factors, suicide attempts, risk factors

■ Abstract

Aim: This study examines, from multiple perspectives, the risk factors associated with, and the social background of, individuals committing suicide in Japan. Effective suicide prevention measures are also proposed.

Method: An analysis of the risk factors for suicide, including the social background of suicide victims, suicide statistics, municipality surveys, interview surveys with bereaved families, mental health surveys, occupational injury inspections, and social resources available to victims, was conducted in the present study.

Results: Histories of both mental illnesses (especially depression) and previous suicide attempts are high-risk factors for suicide. Abuse and experience of violence were the remote causes of suicide. On average, more than three crisis factors were present prior to suicide. For example, overwork, problems with human relations, physical/mental disease, and poverty could form a chain that leads to suicide, regardless of gender. More than 40% of suicide attempts were the result of prescription medication overdose. Overall, 70–90% of suicide victims had medical treatment or an expert consultation before death. Staff and financial backing for voluntary telephone consultation were insufficient. Meanwhile, psychiatric social workers could not provide adequate services.

Conclusions: Help seeking is the basis for suicide prevention. In addition to medication management and reducing work hours, communication with caregivers and healthcare providers as well as intervention for the prevention and treatment of mental illness are essential to suicide prevention. Psychotherapy by clinical psychologists is highly recommended. Active placement

of psychiatric social workers for telephone consultations and for emergency hospitals' staff at the expense of the government will reduce suicides, suicide attempts, and the human and financial burden on hospitals.

■ Introduction

Over 0.8 million people die as a result of suicide worldwide each year.¹ In Japan, more than 30,000 people had committed suicide annually from 1998 to 2011.² In 2012, Japan ranked fifth in the world in the number of suicides, with a suicide mortality rate of 23.1 (men 33.7, women 13.1) per 100,000 population (ranking ninth globally).³ Suicide was the leading cause of death among individuals aged 10–29 years for both men and women.⁴ Among developed countries, suicide was the leading cause of death in the 15–34 year age group only in Japan.⁵ The suicide mortality rate was also high when compared to other countries.⁶ Among men in their 40s, suicide accounted for 21% of deaths, followed by neoplasms at 22%.⁷

Therefore, mental health, specifically the measurement of suicide, is the most urgent issue with respect to Japanese health policy, along with neoplasms and lifestyle-related diseases. In Japan, suicide is taboo, and its background factors have not been fully scrutinized. Additionally, not only mental illness, but also various social factors are deeply involved in suicide.⁸ Thus, this study aims to clarify risk factors of suicide with a social background analysis, and to propose more accurate countermeasure to suicide, through the analysis of suicide statistics, various kinds of surveys, and other related variables such as suicide attempts.

■ Methods

The author collected suicide survey reports from 2004 to 2014 from the Japanese central government, major large local municipalities, a suicide prevention support group, and the science research database of the Ministry of Health, Labour and Welfare (MHLW). Initially, to understand the attributions and causes regarding suicide in Japan, the author analyzed police suicide statistics. Next, to clarify risk factors, occupational data, and the suicide process, interview surveys with bereaved families were employed. Since the social background of suicide is considered to differ by life stage, the author divided the investigation into three groups: youth (age 10–29, mainly students), middle-aged (age 30–49, mainly working people), and older adults (over age 50). For youths, school statistics were also obtained. Given that many middle-aged individuals are employed, mental health surveys, working environment reports, and occupational injury reports were used for this group, because labor and suicide issues are often related to occupational accidents. For the elderly, psychological and physical autopsy results of isolated death investigation were obtained. Finally, the author investigated telephone consultations and human resources for suicide prevention.

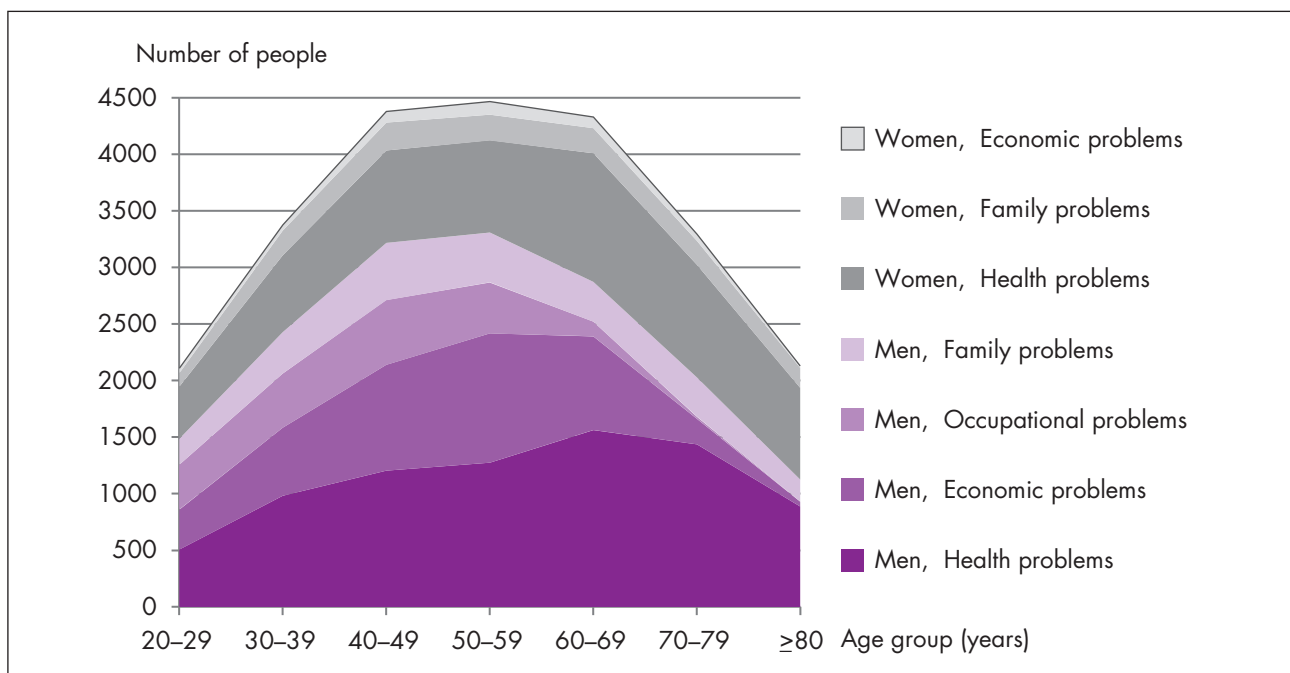
■ Results

● Attribution and causes/motives regarding suicide (police statistics)

Statistics on suicide in Japan come from MHLW (vital statistics) and from the police. Police suicide statistics are the only set of Japanese national statistics that include attribution, and causes/motives. Police statistics indicated that 18,787 men and 8,496 women died from suicide in 2013.⁹ This amounts to a 2.2-fold gender difference, compared to a relatively large 3.5-fold average gender difference found among Organisation for Economic Co-operation and Development (OECD) countries.¹⁰ In terms of the proportion of occupations among suicide victims, self-employed persons, employees, unemployed individuals, and students accounted for 10%, 32%, 52%, and 4% in men, and 3%, 15%, 79%, and 3% in women, respectively.¹¹ The main industries of the self-employed were agriculture, forestry, fisheries (25%), and civil engineering and construction (15%).

Figure 1 shows the number of suicides by causes/motives, sex, and age group in 2013. Suicides were most frequent among those aged 40–69 years of age in Japan. The most frequent cause/motive of suicide was health problems for both men and women. The percentages of individuals with depression, schizophrenia, other mental disorders, and diseases of the body were 16%, 4%, 5%,

■ Figure 1: Number of suicides by causes/motives, sex, and age group in 2013 (Police statistics)



■ **Table 1:** The proportion of individuals whose suicides were related to health problems (Police statistics)

Age group (years)	0–19	20–29	30–39	40–49	50–59	60–69	70–79	≥80
Men	19%	26%	36%	34%	36%	51%	67%	72%
Women	30%	50%	58%	62%	65%	74%	75%	74%

and 16% in men, and 34%, 7%, 8%, and 17% in women, respectively. The percentages of individuals with family problems, economic and life problems, and occupational problems were 13%, 22%, and 11% in men, and 17%, 6%, and 3% in women, respectively. Table 1 shows the proportion of those whose suicides were related to health problems. More than half of female suicide victims over age 20, and male victims over age 60, had issues related to health problems.

The causes/motives of suicide by gender and occupation (not including students) are shown in the appendix. In men, the most frequent cause/motive among the self-employed, employees, and unemployed were a business slump, depression, and unemployment, respectively. In women, depression was the most common cause/motive of suicide for every employment status. With respect to economic and life problems, more men committed suicide than women did. With respect to health problems, more women committed suicide than men did. Schizophrenia was more common among men and women without an occupation. Of the completed suicides, 15% of men and 31% of women had a history of suicide attempts. More than 40% had an attempt history among women between 20s and 40s. To summarize the police statistical analysis, a history of both mental illness and suicide attempts are high-risk factors for suicide.

● Interview surveys with bereaved family members of suicide victims

The Non-Profit Organization (NPO) suicide prevention support group “LifeLink” administered a 488-item questionnaire to 523 bereaved family members of suicide victims between July 2007 and October 2012.¹² This type of survey—namely, one with the cooperation of bereaved family members of suicide victims to analyze the suicide process in detail—is rare in Japan. Gender, occupation, transitional period from first crisis until death, and presence or absence of a history of expert consultation including medical treatment (within one month) before death are shown in Table 2 for those surveyed. Seventy percent of suicide victims had medical treatment or an expert consultation before death. A significant difference was observed in the transitional period before suicide by occupation. Half of self-employed individuals (entrepreneurs) had committed suicide within two years of the first crisis, while the period for homemakers was 8.3 years. In this study, according to the “LifeLink” data, the critical factors extracted after the suicide process analysis are called “crisis factors,” so as to distinguish them from common risk factors.

The 10 most frequent crisis factors were the cause of 70% of suicides, after categorizing 69 crisis elements. Specifically, seven crisis factors were found for both

■ **Table 2:** Interviews with bereaved family members of suicide victims (suicide victims’ gender, occupation, transitional period, and history of consultation)

Suicide victims		Number of people	Transitional period (median years)	Treatment/consultation rate before death (within 1 month)
Total (Men + Women)		502	5	70 (48)%
Sex	Men	343	3.8	63 (41)%
	Women	159	8.1	84 (62)%
Occupation	Self-employed (entrepreneur)	55	2	63 (42)%
	Self-employed (heir)	26	4.5	
	Regular employee	162	4	65 (45)%
	Non-regular employee	41	6.9	66 (40)%
	Homemaker	71	8.3	80 (62)%
	Student	42	3.3	58 (43)%
	Other inoccupation	78	6.9	85 (52)%

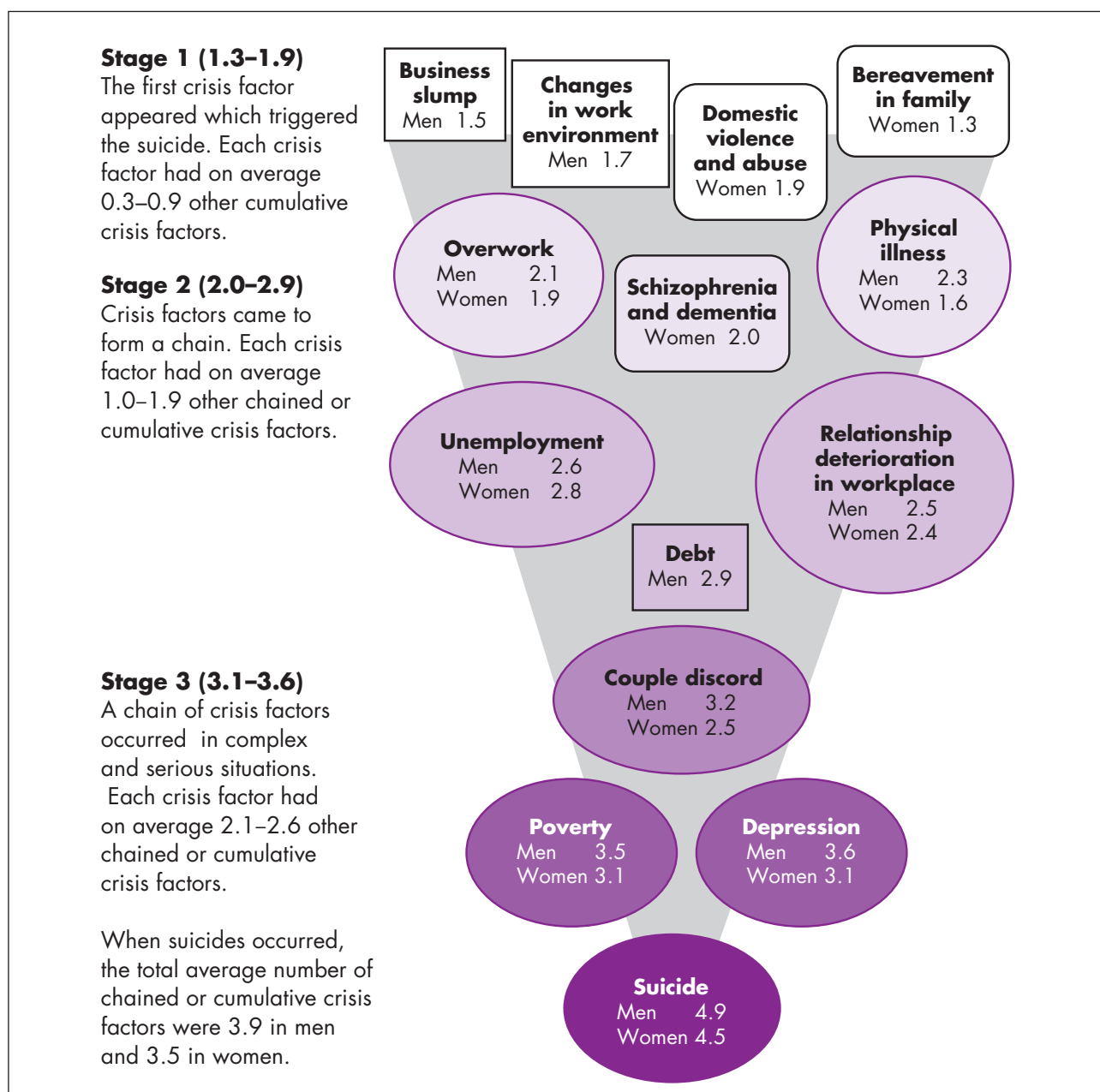
Source: The non-profit organization (NPO) suicide prevention support group Lifelink, white paper on suicide prevention, 2013.

sexes: overwork (including childcare and nursing care in women), relationship deterioration in the workplace, physical disease, unemployment (including failure to gain employment), couple discord, poverty, and depression. The remaining three were business slump, changes in the work environment, and debt in men, and bereavement in family, domestic violence and abuse, and schizophrenia and dementia in women.

Figure 2 shows the 10 most frequent crisis factors

and their “crisis composite degree” in the suicide process, by gender. Through individual suicide process analysis, researchers chronologically counted the number of other crisis factors that had become chained to or that had cumulative effects on each crisis factor. To compare, they originally defined “crisis composite degree” as the addition of 1 to the average number of crisis factors that had been chained to each other, by sex. Then, according to the “crisis composite degree,” the top 10 crisis factors

■ Figure 2: The ten most frequent crisis factors and their crisis composite degree in the suicide process by gender



Note: Crisis composite degree = the number of chained or cumulative crisis factors + 1.

Source: NPO Suicide Prevention Support Group LifeLink, White Paper on Suicide Prevention 2013 (The author partially modified the chain diagram of crisis factors.)

were allocated in three stages. When the “crisis composite degree” was 1.3–1.9, it was placed in Stage 1, as only one event had occurred. The range 2.0–2.9 was placed in Stage 2, as at least one other problem had begun to chain or create cumulative effects. The range 3.1–3.6 was placed in Stage 3, as the situation had become serious through a tangled chain of multiple crisis factors.

Among regular employees, changes in the work environment, such as relocation and promotion, were responsible for 25% of the inceptions of suicide. Depression had more than two other chained crisis factors (men 2.6, women 2.1), and showed the highest crisis composite degree; many individuals became depressed close to the time that they committed suicide.

Approximately 5% of suicide victims who consulted with professionals committed suicide the same day as the consultation. Among women, 73% of teens and 65% of those in their 20s had a history of suicide attempts. Medication overdose and wrist slashing comprised 71% of the attempts in women aged 10–29. Domestic violence was the cause of 12% of suicides among women. For 14% of individuals (12% of men, 19% of women), abuse or the experience of violence were the remote causes of suicide. Although 58% of bereaved family members admitted seeing signs of suicide retrospectively, only 10% recognized that the person was on the verge of suicide.

In terms of gender comparisons of behavior before death in another psychological autopsies survey with suicide-bereaved families, men exhibited alcohol problems in the year before death, and had been diagnosed with alcohol-related disorders at the time of death. Women had often talked about death, exhibited self-injury behavior before death, and were often diagnosed with eating disorders at the time of death.¹³ Regarding debt, male suicide victims with unmanageable debt were more likely to have been self-employed and divorced, and less likely to have engaged in help-seeking behavior.¹⁴ In terms of psychological and social differences in the employment status of completed suicides at the time of death, compared to women, more men were employed, had alcohol problems, and had unmanageable debt. In contrast, more women were unemployed, unmarried, and aged 20–39. More than half of suicide victims had a family member or a friend who had completed or attempted suicide, regardless of their employment status.¹⁵

According to research by the Tokyo Metropolitan

government in 2009, 70% of suicide victims had a medical treatment or an expert consultation before their death.¹⁶ According to the Nationwide Bereaved Families Liaison Committee’s survey (2010–2013), 90% of suicide victims, and over 95% of those aged 20–39, had psychiatric or psychosomatic treatment by a physician.¹⁷ Some bereaved family members believed that over-prescription of drugs brought about the suicide.

● Social background of youth suicide

According to police statistics from 2013, regarding the causes of students’ suicide (667 boys and 251 girls, includes college students), the proportion of students with school problems (e.g., social problems and poor academic performance), family problems, depression, schizophrenia, and other mental disorders were 38%, 8%, 7%, 3%, and 3% in boys, and 39%, 16%, 20%, 6%, and 7% in girls, respectively.¹⁸ In the 2013 school year, the number of suicides among students in elementary, junior high, and high school were 4, 63, and 173, respectively.¹⁹ Although school authorities investigated the causes of suicide, half of them remained unknown.²⁰ After an on-air television special about suicide among people in their 20s, a public broadcasting station received 600 e-mails from viewers who reported sometimes wanting to die. Nearly 30% had suffered a traumatic event such as parental divorce, bullying, or childhood abuse.²¹ The total number of cases of bullying in elementary, junior high, high, and nursing schools in 2013 school year was 185,860,²² and the number of consultations on child abuse in child consultation centers in 2013 was 73,765.²³ In 2013, in Japan, 24,175 (0.4%) of elementary school pupils, 95,442 (2.7%) of junior high school students, and 55,657 (1.7%) of high school students were absent from school more than 30 days (truancy). In addition, 59,742 students dropped out of high school, 40% of whom did so due to maladjustment.²⁴ Moreover, 4.5% of high school graduates and 12.1% of college graduates became NEET (not in education, employment, or training) in 2014.²⁵ The Cabinet Office estimates that 700,000 people aged 15–39 years old are experiencing social withdrawal (staying at home and only going out for hobbies, without studying or working).²⁶ Based on estimates from the joint survey results of the World Mental Health Survey, 260,000 people are in social withdrawal (continuously at home for more than 6 months) and 42% of them suffer

from mental illness.²⁷ From 1985 to 2006, in Japanese national universities, there were 987 suicidal students (803 men, 184 women), and the suicide mortality rate was 13.4 (men: 15.7; women: 8.2). Of the suicidal students, only 186 (19%) had been diagnosed, of whom 36% had schizophrenia and 41% had mood disorders.²⁸

In the conventional Japanese simultaneous recruitment system, many companies recruit employees from among new graduates. Many college students seek jobs for up to 9 months; if they fail, obtaining a job later becomes extremely difficult. Thus, failure to gain employment could be a leading factor for suicide among Japanese individuals in their 20s.²⁹ The share of regular employment among new graduates in 2014 was 67%. Students who do not gain regular employment may become pessimistic. Students who repeat a year in school and those who do not find a job after graduation are at a higher risk of suicide. Moreover, even among those college students who succeed at obtaining employment, 30% quit within three years. The top three reasons for this turnover were “excessive work-related stress” (30%), “long working hours” (24%), and “painful human relations in the workplace” (22%).³⁰ These employees showed mental fatigue, and re-employment without proving their ability to tolerate stress was difficult. Thus, some became NEET or started social withdrawal.

● History of certification criteria for workplace compensation after suicide

In 2000, the Supreme Court first recognized the appeal of a suicide bereaved family; an employee who suffered from depression due to overwork was awarded compensation from the company for obligations regarding safety. This ruling became an opportunity for both government and companies to take responsibility for depression and suicide prevention measures. In a High Court ruling after this trial in 1999, the Ministry of Labor (merged into Ministry of Health, Labour and Welfare) acknowledged suicide due to overwork, when certification criteria were met for work-related accidents.³¹ In 2001, MHLW created a suicide prevention manual for the workplace. The number of workers’ compensation applications due to mental disorders was 42 in 1998, 155 in 1999, and 212 in 2000; by 2005, it had significantly increased to 656. In 2011, certification standards were revised so that if there were more than 120 overtime hours per month in

two consecutive months, the workers’ compensation would be approved. Three essential requirements for certification for compensation were as follows. (1) The employee met the criteria for a mental disorder. (2) Within six months of the onset of the mental disorder, there was a strong psychological burden with respect to the occupation. (3) There was no possibility that the employee became ill due to individual factors or a private psychological burden.

● Inspection of compensation for occupational accidents

In 2013, the number of applications for compensation for occupational accidents based on mental disorders was 1409, which was the largest increase ever (152) from the rate of the previous year.³² Table 3 shows the inspections and certifications of occupational accidents based on mental disorders and cardio and cerebrovascular diseases (CVD) in 2013. In total, 84% of those with mental disorders and 87% of those with CVD were regular employees. Inspections were conducted for 1193 cases of mental disorders (including 157 suicide and attempted suicide cases). Of these, the MHLW certified 436 (373 non-suicide, 63 suicide and attempted suicide) cases as work-related accidents. Table 4 shows the distribution of monthly hours of overtime work for those with certified work-related accidents. In Japan, the statutory workweek is 40 hours.

In 2001, the MHLW revised the cutoff for CVD due to overwork as 4 hours of overtime per day (80 hours a month) for 2 months prior to the onset of the disorder.³³ With respect to the mental disorders’ revision in 2011, the guideline states that employees must have worked more than 100 extra hours per month for 3 months, prior to the onset of the disorder, for compensation.³⁴

With respect to working versus sleeping hours of employees, 2 overtime working hours per day (45 monthly hours) is acceptable, as long as there are 7.5 daily sleeping hours. However, when daily overtime hours increase to 4 or 5, employees have great difficulty with health maintenance because daily sleeping hours are reduced to 6 and 5, respectively.³⁵ MHLW urges employers to consult with every employee who had more than 100 monthly overtime hours and to reduce overtime. However, the workers’ health survey reported larger companies tend to hire more overtime employees. Among businesses with more than 5000 employees, the percentage of workers

■ **Table 3:** Inspections and certifications of occupational accidents based on mental disorders and cardio and cerebrovascular diseases (CVD) in 2013

Type	Mental disorder				Cardio and cerebrovascular disease			
	Inspection				Inspection			
	Total	Number of suicides	Certified		Total	Number of fatality	Certified	
Non-suicide			Suicide	Non-fatality			Fatality	
15–19 years old	19	2	5	1	2	2	0	0
20–29 years old	221	34	66	9	20	10	7	6
30–39 years old	382	38	140	21	81	40	24	19
40–49 years old	347	45	90	16	182	84	46	46
50–59 years old	175	28	57	12	219	95	61	47
≥60 years old	49	10	15	4	179	59	35	15
Total	1193	157	373	63	683	290	173	133
Regular employee	999	146	318	57	591	257	162	124

Note: Suicide includes attempt.

Source: MHLW (2013) employee compensation.

■ **Table 4:** Distribution of monthly overtime working hours and certification for those with certified work-related accidents in MHLW employee compensation in 2013

Overtime work hours per month	Mental disorder		Cardio and cerebrovascular disease	
	Non-suicide	Suicide	Non-fatality	Fatality
0–20 hours	84	5	0	0
20–39 hours	34	9	0	0
40–59 hours	27	4	0	0
60–79 hours	20	7	15	16
80–99 hours	17	4	56	50
100–119 hours	37	9	43	28
120–139 hours	18	4	13	8
140–159 hours	18	6	14	8
≥160 hours	24	7	21	13
Obvious overwork	94	8	11	10
Total	373	63	173	133

Note: Suicide includes attempt. Obvious overwork was identified by MHLW as related to abnormal events (e.g., earthquakes) or short-term excessive work (e.g., 18 working hours per day for two continuous weeks).

who had 80–99 hours overtime a month, and more than 100 hours a month, were 66% and 48%, respectively. Additionally, 43% had more than 30 employees who had more than one month sick leave or had retired. Return rate (more than half of sick employees returned to work) was 63%.³⁶

● Mental health survey of employees

MHLW's survey of mental health care at job sites reported that the proportion of workers who had strong anxiety, worry, and stress regarding their occupation was 61%.³⁷ Table 5 shows the percentages of the items for employees experiencing strong anxiety, worry, and stress.³⁸ The Japan Institute for Labor Policy and Training

asked employers about the causes of mental disorders. Table 6 shows the causes of mental disorders from the employer's perspective.³⁹ Larger companies chose "increase in workload" more frequently.⁴⁰ Table 7 shows the percentage of organizations for which more than one regular employee left or took sick leave for more than one month due to a mental disorder in the past year.⁴¹

● Suicide among older adults

In a survey of completed suicides, men aged 50–60 years who retired unwillingly due to human relation problems at work or physical illness were at risk for depressive and alcohol-related disorders.⁴² Among middle-aged and older men, suicide mortality risk compared to that of married

■ **Table 5:** Cause of employees experiencing strong anxiety, worry, and stress (multiple answers possible)

Cause	Percent
Problems with human relations in the workplace	41%
Problems with the nature of work	33%
Problems with the amount of work	30%

Source: MHLW, Labour Health Survey 2012

■ **Table 6:** Cause of mental disorders from the employer's perspective (multiple answers possible)

Cause	Percent
Problem with the worker's personality	68%
Problem with human relations in the workplace	58%
Increase in workload	38%
Increase in job responsibilities	32%
Family problems	29%
Lack of communication with supervisor and subordinates	29%
Excessive competition	13%

Source: The Japan Institute for Labor Policy and Training, 2011

men was as follows: unmarried, 1.3-fold; widowed, 2.8-fold; and divorced, 5.6-fold.⁴³ In Japan, deaths among isolated older adults have become a major concern.⁴⁴

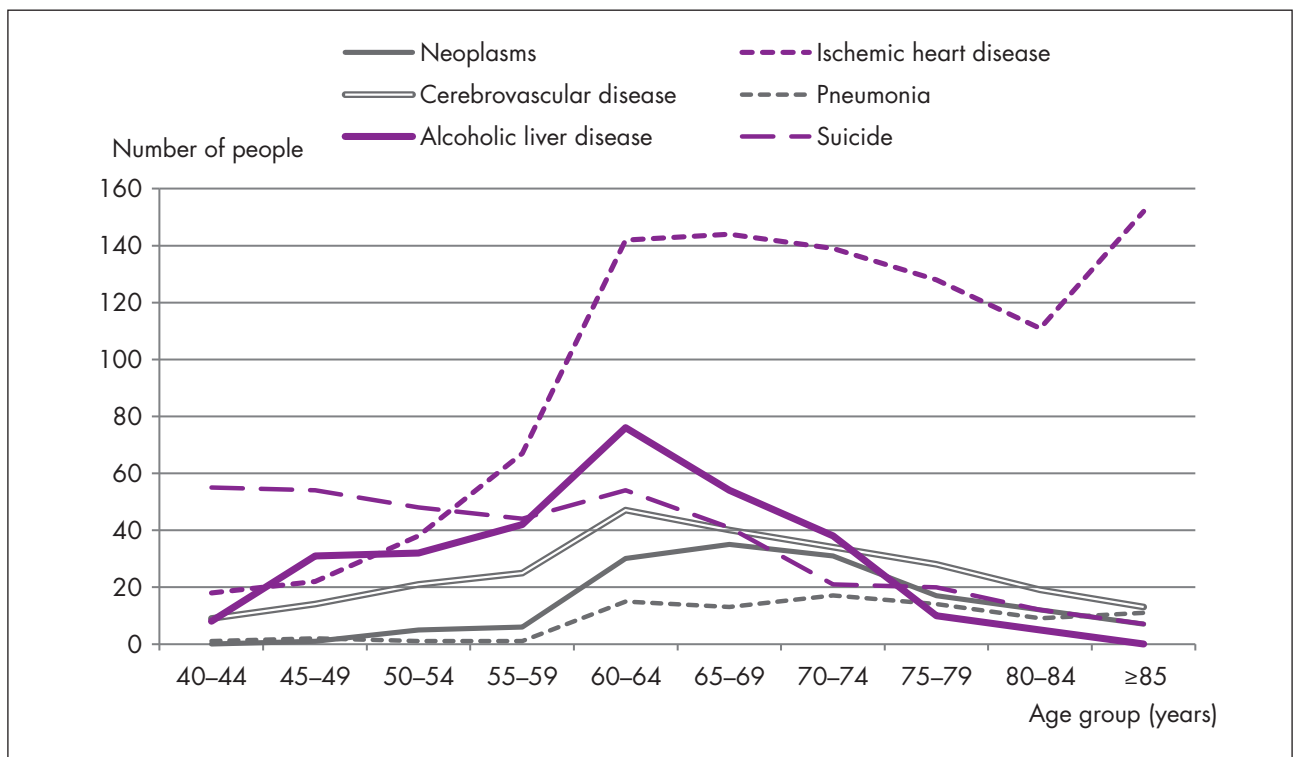
■ **Table 7:** The ratio of organizations for which more than one regular employee left or took sick leave for more than one month due to a mental disorder in the past year

Industry field	Ratio of organizations
Information and communications	56%
Medical and welfare	34%
Education and learning support	33%
Manufacturing	31%

Source: The Japan Institute for Labor Policy and Training, 2011

Figure 3 shows the autopsy results of isolated male deaths by age group and cause of death from the Tokyo medical examiners' office in 2012.⁴⁵ From 55 to 65 years, deaths from ischemic heart disease and alcoholic liver disease increased rapidly. Regarding personal communication, among single individuals aged 65 years and older, 17% of men and 4% of women had conversations (including via the phone) about daily events less than once in two weeks.⁴⁶ Furthermore, older adults are increasingly caring for spouses or parents; one in four caregivers is depressed, and one in three caregivers over 65 years of age has suicidal ideation.⁴⁷

■ **Figure 3:** Autopsy results of deaths of isolated single men by age group and cause of death from the Tokyo medical examiners' office in 2012



● Attempted suicides and support

Although the ratio of suicide attempts to completed suicides remains unknown,⁴⁸ it is commonly estimated to be about 10–20 in Japan^{49,50} (similar to WHO estimates).⁵¹ In contrast to gender ratios for suicide completion rates (for which men have rates 2.2 times those of women), more women attempt suicide than men.⁵² In Japan, most attempted suicides are transported to emergency hospitals, where suicide attempters make up 4.7% of patients.⁵³ In Osaka prefecture, 66% of suicide attempters, and 70% of those in Niigata City who had been transported to emergency hospitals were women.^{54, 55} In Osaka, the percentages in their 20s, 30s, and 40s were, 39%, 17%, and 17% in men, and 12%, 35%, and 22% in women, respectively. In Niigata City, the percentages were, 22%, 24%, and 20% in men, and 34%, 25%, and 12% in women, respectively. In Osaka, 47% of suicide attempters had a previous attempt history.⁵⁶

Regarding psychiatric diagnosis and consultation, 57% of suicide attempters in Tokyo had mental illnesses.⁵⁷ Among young people under age 19 at a university hospital emergency center in Tokyo, mental illness was observed in 89% of attempters.⁵⁸ In a study at the university hospital emergency center in Fukuoka City, of 288 suicide attempt patients, 97% had some psychiatric diagnosis.⁵⁹ Of those, 53 men and 143 women had a psychiatrist consultation before attempting suicide, and of those, 41% attempted suicide through a prescription drug overdose. Another 55 men and 37 women had no such consultation.⁶⁰ Seventy-two percent of those who had a consultation with a psychiatrist did so within one month of when they attempted suicide.⁶¹ In addition, 71% of suicide attempters in Osaka Prefecture, and 70% in Niigata City had psychiatric consultation history, and 61% of attempters in Niigata City were receiving treatment.^{62, 63} The proportions of a prescription drug overdose accounted for suicide attempt means were 40% in Osaka Prefecture, 48% in Tochigi Prefecture, and 51% in Mie Prefecture.^{64, 65}

In terms of suicide-related behavior among teenagers, 7.4% of boys and 11.4% of girls had exhibited self-harming behavior such as wrist slashing, and 32% of boys and 47% of girls had wanted to die at least once.⁶⁶ Furthermore, 96% of self-harm is done while alone and 90% of those who self-harm do not visit doctors, even with deep cuts requiring medical care.⁶⁷

The rate at which emergency physicians instructed

suicide attempters to consult a psychiatrist was 52% (the rate was 68% when there was a psychiatrist in the same hospital; in the case when there was no psychiatrist in the hospital, the rate was 23%) in Tokyo,⁶⁸ and 41% in Kanagawa Prefecture.⁶⁹ In Osaka Prefecture, the rate was 58% in outpatient cases and 83% in hospitalized cases. The Osaka municipal government has placed a psychiatric social worker in each emergency hospital to follow suicide attempters. Rates of intervention by psychiatrists, psychiatric social workers/clinical psychologists, or both types of professionals were 19%, 16%, and 25%, respectively. Even with the placement of additional professionals, 40% of attempters could not be reached due to constraints (e.g., admitted on a weekend or holiday, and discharged the next morning).⁷⁰

● Telephone consultations and human resources

In 1952, an Anglican Church pastor thought that a girl in his parish could have avoided suicide if she had felt free to speak about her troubles. The following year, he started the free confidential consultation service “Samaritans,” available to anyone regardless of religion or beliefs. Currently, approximately 18,000 volunteers conduct 5.2 million telephone consultations per year in the United Kingdom (UK). They listen to concerns of individuals and offer sympathy without providing practical advice or solutions.⁷¹ In Japan, a similar lifeline was started in 1971, modeled after a lifeline in Australia. Now, 6800 volunteers receive calls in 51 cities. Although they opened a toll-free consultation every 10th day, they do not have enough volunteers, telephone lines, or financial support to receive all of the calls. Thus, they could only accept 34,712 (4.1%) of 855,754 calls in 2010.⁷² In 2013, 4176 (27%) of men and 4009 (32%) of women calling toll-free, and 28,406 (8%) of men and 44,770 (13%) of women charged for calling were suicidal (i.e., they had suicidal ideation, high risk of suicide, gave notice that they would attempt or were attempting suicide).⁷³ In a follow-up study of United States telephone counseling calls, 65% of female telephone callers had suicide attempt histories. While many callers experienced reduced psychological distress after the phone call, among 43% who continued to have suicidal ideation, 3% attempted suicide after the phone call.⁷⁴

With regard to human resources in Japan, psychiatric

social workers have been certified with a national qualification at the undergraduate level since 1998. Now, 167 schools have established training courses, and 4100 students pass the exam each year. Enrollment numbers reached 60,946 in July 2013. However, because of low awareness and few new job offers from psychiatric hospitals and facilities, some schools have considered closing their programs.

■ Discussion

In this section, based on a review of the results, the author describes risk factors, treatment issues and solutions, challenges regarding statistical information, supplementary information regarding suicide prevention for students and older adults.

● Risk factors for suicide

Mental illnesses, such as depression and schizophrenia, and an attempt history are high-risk factors for suicide. Schizophrenia commonly develops in adolescence and may create a risk for suicide,⁷⁵ whereas borderline personality disorder may create a risk for suicide-related behavior based on trivial events.⁷⁶ Self-injurious behavior such as wrist slashing should not be overlooked. Although self-harm is non-lethal in the short term, individuals can become accustomed to pain, while exhibiting these behavior to reduce emotional distress. Gradually, such behavior can serve as a rehearsal for suicide, and lead to escalation.⁷⁷ In the psychotherapy process, patients build trust with the psychiatrist, and learn to accept their feelings and use replacement behavior rather than self-harm.⁷⁸ It is desirable to start treatment early in life to reach a quicker resolution. Indeed, preventive education that emphasizes early problem recognition and appropriate help seeking is the basis for good mental health throughout life.⁷⁹

Interview surveys with suicide bereaved families revealed that suicides occurred after multiple problems linked in a complex manner, and that the transitional period before suicide differed by sex and occupation. Depression was most closely associated with suicide for both sexes. The crisis factors specified in the LifeLink study are considered suicide risk factors from a sociological perspective. Human relations factors, such as deterioration in the workplace, couple discord, and family history factors, such as violence, abuse, bereavement, and suicide of family and friends are closely connected

with suicide. In addition, economic factors such as a business slump, changes in the work environment, and unmanageable debt are also suicide risk factors for men.

● Negative effects of drug-centered therapy in depression treatment

Police statistics revealed that depression was the most common cause/motive of suicide among male employees and all women. Although depression itself is not a lethal disease, it causes excessive psychological suffering and is related to suicide.⁸⁰ Depression prevention is important for suicide prevention. However, interview surveys revealed that about 70–90% of suicide victims had medical treatment or an expert consultation before death. In addition, attempted suicide surveys showed that more than 40% of suicide attempters did so by prescribed drug overdose. Thus, there is a need for medication management regarding prescription drugs and suicide risk evaluation in psychiatric treatment.

The estimated number of depressed patients in Japan was 204,000 people in 1996, 239,000 in 1999, and then grew to 441,000 in 2002, 628,000 in 2005, 700,000 in 2008, and 704,000 people in 2011.⁸¹ In 1999–2002, the number of psychiatric patients increased significantly, and in 1999, selective serotonin reuptake inhibitors (SSRIs) became covered by health insurance. Since 2000, actors and celebrities began to confess their depression in the media. In 2002, a pharmaceutical company introduced a large advertising campaign referring to mild depression as “kokoro no kaze” (“a slight cold of the mind”), which became very popular.⁸² However, a new misconception emerged that depression could be healed easily in a few weeks with medication (like a cold); this reduced the reluctance of many Japanese who had avoided psychiatric consultation due to shame. From 1996 to 2008, psychiatric clinics and psychosomatic clinics increased 1.8-fold (3198 to 5629) and 5.7-fold (662 to 3775), respectively.⁸³ From 1998 to 2010, antidepressant sales soared 7.6-fold (14.5 to 110 billion yen).⁸⁴ Drug therapy centered treatment had spread rapidly for depression. However, the suicide increase cannot be explained by the increase in patients with mild depression. Logically, starting proper treatment at a mild stage should reduce the risk of suicide. Therefore, the question remains. Why did so many depressed patients committed suicide despite receiving treatment? The

author suspects that antidepressant-centered treatment may not have been successful. In some cases, disease states would have been rather severe or prolonged, and problems in relationships at home and in the workplace would not have been solved with medication alone.

● Active utilization of psychotherapy

Japan should take advantage of psychotherapy, as is done in the United Kingdom. The UK reinforced mental health measures as well as coronary heart disease measures starting in 1999. The number of consultant psychiatrists and mental health nurses increased by 25% and 13% respectively, in 1999–2003, and the number of clinical psychology professionals increased by 42% (3763 to 5331).⁸⁵ In 2004, the UK National Institute for Clinical Excellence stated that antidepressants should not be selected for mild depression treatment, which accounts for 80% of depressed patients, because the risk-benefit ratio is poor. They recommended problem-solving therapy, short-term cognitive behavioral therapy, and counseling. They judged that a combination of drug therapy and psychotherapy was effective for moderate to severe depression cases.⁸⁶ The UK government has promoted psychotherapy with a budget of 400 million pounds sterling over the period 2011–2015. From October 2008 to December 2012, approximately one million people had received psychotherapy and 680,000 people had completed those therapy sessions.⁸⁷ Of those who received psychotherapy, 41% recovered and about two-thirds showed marked improvement.⁸⁸ In the UK, it is assumed that 50% of people with depression and/or anxiety desire treatment, half of those people meet relevant diagnostic criteria, and of those 80% have anxiety and 68% have depression. In total, 15% of patients or at least 900,000 patients annually are estimated to have received therapeutic psychological interventions.⁸⁹ Although there are 26,000 Japanese master's degree-level clinical psychologists, regular employment positions are few. Thus, the need for the enhancement of psychotherapy services is clear.

● Utility of communication

Solutions such as communication with superiors, colleagues, and healthcare providers including occupational health care staff, relaxation, and reductions in working hours are needed for depression stemming

from relationship problems and overwork. After the collapse of the Japanese real estate market in the 1990s, companies drastically changed their human resource models to survive. This involved switching from long-term stable employment to non-regular employment, early promotion, and introduction of performance-based remuneration systems. Labor also became polarized, resulting in highly paid and low-wage employees. Non-regular workers could not plan for marriage or children due to fixed low wages. Regular employees could not plan for advancement due to long working hours and overloaded responsibilities, power conflicts and harassment, and anxiety about restructuring and layoffs. Supervisors and personnel managers also became unable to ensure smooth human relations at work. Thus, the logic changed, so that unavoidable problems in human relationships were compensated for in terms of salary.

Everyone may be subject to depression. Workplace issues are best resolved through communication, discussion, and mutual assistance. Police statistics showed that suicides related to workplace issues accounted for 28% of cases among male workers. Based on the LifeLink survey results, four years passed from triggering events to the suicide. Most bereaved families of suicide victims regretted that early effective measures at job sites were not taken to prevent suicides. Sharing problems and having frank discussions about distress in the workplace are essential for productivity improvement. Workers suffering from depression want casual consultations in the workplace. Of those, 53% had no one to consult in the workplace, and 31% could not reduce working hours due to responsibilities.⁹⁰ Often, colleagues are already overworked as well as depressed. Thus, reduction of excessively long working hours is essential for suicide prevention. Finally, some of depressed employees are forced into retirement when unable to work due to illness; those who do not recover enough to work suffer from pessimism due to lost earnings and may eventually commit suicide. Thus, early self-identification of poor mental and physical health is imperative. In such cases, the workload should be adjusted to maintain health, with the help of occupational health professionals. In addition, shorter work schedules and work-sharing schedules, as employed in the Netherlands, should be introduced.

● Challenges of statistical information

Interview surveys suggested that some youth who suffered from mental disorders such as schizophrenia and eating disorders could not find jobs and felt isolated in the community.⁹¹ Such patients are hidden in suicide statistics in the category of “inoccupation.” Although privacy protection is important, there is a need for not only social initiatives (for social inclusion and suicide prevention for mental disorders), but also the ability to evaluate the effectiveness of initiatives through suicide statistics. Starting in April 2018, mental disabilities will be newly incorporated into the calculation of legal disability employment rates, as well as physical and intellectual disabilities under the Disabled Persons Employment Promotion Act. In this Act, new working styles will emerge, such as trial employment, step-up employment, short-time shifts, and supportive work with a job coach. In addition, the Services and Supports for Persons with Disabilities Act helps them to find work more easily through employment transition support services. Use of new terms such as “intermediate employment” and “sick leave” for employment status will help to demonstrate the social background of suicide victims (although no suicides during these periods would be ideal). The author hopes that there will be an analysis of the causes/motives by gender, age group, and occupation among suicide victims in police statistics. Traditionally, police statistics have been criticized, in that judgments of causes/motives tend to be superficial and based on the investigation of a death, rather than on a psychological examination. For example, in the case of a homemaker with depression, it may not be clear whether suicide is due to mental illness or physical disorders, family relationships, or poverty. In fact, police ask suicide victims’ physicians to offer an opinion on the cause in the investigation of suicides. Presenting the main cause and secondary factors separately would be one way to improve understanding.

● Suicide prevention for college students

Currently, all members of national universities are responsible for suicide prevention measures, and every healthcare center has created guideline for suicide prevention. These organizations utilize a three-pronged approach: prevention, intervention, and postvention. In preventive activity, they observe at-risk students with respect to the following factors (1) maladaptation

to college life (isolation, poor attendance), (2) poor performance (grade repetition, papers not submitted), (3) inability to find a job, and (4) taking a long time to complete assignments (papers and experiments). These students should be observed and supported through counseling if exhibiting the following: (1) psychiatric disorders (e.g., depression, schizophrenia, sleep disorders, hypochondria) or suicide-related behaviors, (2) losses (love, economic hardship, family discord, bereavement) or suicide-related behaviors causing serious damage, (3) alcohol and substance abuse, and (4) experience of harassment, bullying, or violence. These students should be put in contact with psychiatrists who can offer professional consultation.⁹² Since healthcare centers in universities provide professional services for free or at a low cost, students should take advantage of them.

● Prevention for older adults

Men in their late 50s and 60s may be prone to physical and mental crises due to lifestyle-related diseases, deterioration, or involuntary retirement and layoffs. Because men rarely seek assistance nor do they speak about death before suicide, people do not usually notice the seriousness of the situation.⁹³ For most middle-aged single men, the workplace is the last source of social activity. After retirement, older men often fall into depression. Compared to women, men easily become reticent and socially isolated. Creating opportunities for new activities in the community, and encouraging retirees to become active are important roles for municipalities. Some men regain their purpose by filling roles as safety wardens or after-school childcare volunteers in primary schools during labor shortages. For older adults who are caregivers, an informal support systems would be helpful allowing them to rest and take time to interact with friends and neighbors.

■ Conclusions

Mental illnesses and a history of attempting suicide are factors indicating high risk for suicide. Depression, in particular, is most closely associated with suicide. Changes in the work environment, problems with human relations, and overwork induce illness and suicide among employed individuals. Such problems cannot be solved with antidepressant drug-centered treatment alone. Similar to the United Kingdom, Japan should employ psychotherapy

more frequently. In addition to medication management and reducing overwork, communication with caregivers and healthcare providers as well as interventions for the prevention and treatment of mental illness are essential to suicide prevention. Help seeking is the basis for suicide prevention throughout life.

● Recommendations

The author recommends the active recruitment of psychiatric social workers responsible for mental health

along with an enhancement of psychotherapy. A 24-hour free telephone consultation system should be a top priority in terms of suicide prevention measures in Japan, as it is an effective method for reaching individuals at high risk of suicide.⁹⁴ High-risk cases should be referred to local mental health centers for continual support. Active placement of psychiatric social workers for telephone consultations and for emergency hospitals' staff at the expense of the government will reduce suicides, suicide attempts, and the human and financial burden on hospitals.

Appendix

Causes/motives of suicide from 2013 police statistics, excluding students (multiple responses possible within the three areas)

Employment status	Self-employed		Employed		Inoccupation							
	Men	Women	Men	Women	Homemaker	Unemployed		Pensioner		Other		
Sex	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
Number	1898	231	6012	1260	1914	1117	100	4061	2490	4517	2156	
Family problems	13%	20%	15%	21%	23%	13%	15%	14%	14%	12%	13%	
Couple discord	5%	6%	7%	6%	6%	4%	1%	2%	1%	2%	2%	
Other discord	3%	5%	3%	5%	4%	3%	4%	3%	4%	3%	4%	
Death of family member	2%	3%	1%	3%	2%	1%	3%	3%	4%	2%	2%	
Future pessimism of family	2%	3%	2%	3%	3%	2%	2%	3%	2%	2%	2%	
Caregiver fatigue	1%	1%	1%	1%	2%	1%	1%	2%	1%	1%	1%	
Health problems	33%	51%	29%	50%	73%	32%	58%	67%	77%	51%	71%	
Physical disease	14%	14%	7%	6%	15%	7%	5%	37%	31%	15%	13%	
Depression	13%	28%	16%	31%	41%	15%	37%	16%	32%	19%	35%	
Schizophrenia	1%	1%	2%	4%	7%	4%	8%	4%	5%	8%	12%	
Alcoholism	1%	1%	1%	1%	1%	1%	1%	1%	0%	1%	1%	
Other psychiatric disorders	2%	6%	3%	8%	7%	4%	6%	5%	6%	5%	8%	
Economic and life problems	47%	24%	20%	10%	3%	55%	29%	9%	3%	21%	6%	
Business slump	23%	10%	2%	1%	0%	0%	0%	0%	0%	0%	0%	
Bankruptcy, unemployment	1%	0%	1%	0%	0%	24%	14%	1%	0%	3%	0%	
Poverty	5%	5%	4%	3%	1%	12%	4%	4%	2%	8%	3%	
Debt	17%	8%	12%	4%	1%	11%	4%	3%	1%	4%	1%	
Seeking insurance payout	1%	1%	0%	0%	0%	1%	0%	0%	0%	0%	0%	
Workplace problems	7%	4%	28%	15%	0%	6%	11%	1%	0%	3%	2%	
Failure at work	2%	1%	5%	2%	0%	1%	4%	0%	0%	1%	0%	
Human relations	1%	0%	6%	6%	0%	1%	4%	0%	0%	1%	1%	
Changes in environment	0%	0%	4%	2%	0%	0%	0%	0%	0%	0%	0%	
Fatigue	2%	2%	9%	4%	0%	0%	2%	0%	0%	0%	0%	
Affection problems	2%	3%	6%	14%	1%	2%	9%	1%	1%	2%	5%	
Other problems	4%	3%	5%	5%	2%	6%	6%	6%	6%	7%	5%	

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Let's Laugh to Cure Diseases



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■ Laughter is the best medicine

Laughter has been shown to have physiological, psychological, social, spiritual, and quality-of-life benefits. As such, laughter is called the best medicine.¹ It is commonly said that depressed patients with cancer or cardiovascular disease become healthy by laughing. We call this spontaneous remission with laughter. However, I hypothesize that laughter causes mental changes, which activates the brain and then alters muscle movement. In my new hypothesis, laughter can cause physical effects through brain activation. Laughter can be an effective form of natural rehabilitation.

■ Hemiplegia of face will improve with laughter

We had a remarkable example of the effect of laughter in patients with a hemiplegia of the face resulting from cerebral infarction. By drawing a spontaneous laugh (triggered by external stimuli or positive emotions) from patients with hemiplegia of the face, the expression of laughter functioned as a massage of the cheek muscles, and led to a recovery from face paralysis. When we sincerely praise the good points of a person, that person is pleased and laughs naturally. This is an easy way to elicit laughter.²

Drawing a spontaneous laugh can be done by laughter therapy training, organized by the author, which was uniquely conducted in a multi-occupational population setting in an acute care hospital.³ Healthcare providers who had received training over a long period sustained the effect and remained motivated. When they can carry out laughter therapy, they remain motivated, as other papers have reported.³

We drew natural laughter from patients suffering from hemiplegia resulting from cerebral infarction. Natural

laughter was elicited by telling that person about their positive features. This natural laughter caused both cheek muscles of the face to move symmetrically. Laughter is a natural massage of the cheek muscle and leads to recovery from paralysis. A 59 year-old lady with left hemiplegia due to left cerebral infarction had an asymmetrical expression when told to laugh. She regained a symmetrical appearance through natural laughter.

The comparison between laughter on instruction and natural laughter is as follows. When instructed to laugh and to raise both corners of the mouth, the patient with hemiplegia can raise only one side of healthier corner of the mouth. The depth of the nose wrinkles between the eyes on the paralytic side were less shallow. The wrinkles were larger and deeper in the case of natural laughter. The depth of the wrinkles in the lateral corner of the eye became deeper in the case of natural laughter compared with instructed laughter. More expressions changed, such as a symmetrical cheek muscle raise, depth of the nasolabial fold, a gently rounded angle of rectangular lateral, and opened mouth shape. It became a symmetrical crescent shape in natural laughter. In the picture on the left, the person has been told to laugh, so there is a greater discrepancy between the left side of the face and the right side of the face. In the picture on the right, there is much less difference between the left and right sides of the face. Several patients had similar experiences. Another woman stated that her left cheek loosened suddenly after she became impressed during the laughter training.

Whether a person laughed at his/her own instigation or on instruction from others, the instructed laugh resulted in a distorted face. The verbal instruction to "laugh" was transferred to the higher-order thinking center of the brain, which contains the hearing center and language



center. Then, the information went to the motor center for voluntary movement. Since the smiles requires the fine coordination of several dozens of muscles, the forced expression of smiling became unnatural and to stiff.

Spontaneous laughter triggered by positive emotions governs the basal ganglia. Both sides of the basal ganglia send the information to both sides of the body. That is why spontaneous laughter results in a non-distorted facial expression. Natural laughter made a symmetric appearance of the face. After cerebral infarction, eliciting a natural laugh led to rehabilitation of facial muscles. The rehabilitation of patients with cerebral infarction should incorporate actively natural laughter. It would seem that giving compliments is the most effective way of eliciting natural laughter.

■ Illness exacerbates depression, which can lead to suicide

Suicide is all too common in Japan. The number of suicides is more than 30,000 people per year. For people over 60 years of age, the statistics showed 31.0 suicides per 100,000 population in 2009. The suicide rate of elderly people is high in Japan compared with other countries, with a particularly high percentage of suicides among elderly women. Patients are prone to depression when they suffer physical illness. Patients with both depression and coronary heart diseases have a higher mortality than patients with only cardiovascular disease.

■ Disease has improved with laughter. Laughter reduces the suicide rate.

About 40,000 people in the Aomori prefecture of Japan have participated in laughter therapy, named the Smile-Sun Method. This figure indicates that one out of every

28 people in Aomori prefecture have participated in the Smile-Sun Method. The suicide rate in the prefecture subsequently declined dramatically compared to the national rate in Japan.⁴

■ Effectiveness of laughter

The medical effects of laughter have mentioned, and include (a) neuroendocrine immune system effects,^{5, 6, 7} (b) immune system changes,^{8, 9} such as better wound healing under emotional stress,¹⁰ and (c) changes in gene expressions.¹¹

■ What kind of laughter is recommended?

The amygdala is the center of anxiety and fear. When the input information is pleasurable, the information goes through the amygdala and you can laugh. However, when the input is uncomfortable, amygdala stimulate sympathetic nerve dominance. This causes hypertensive effects. That is why you never stimulate the amygdala when laughing.

The time course of responses was different for laughter and weeping in Sakaguchi's autonomic nervous function analysis.¹² He suggested that laughing has strong but transient effects on the autonomic nervous system, while weeping or feeling sad had moderate but sustained effects on it. In this case, laughter was induced by watching comedy.

Ramon Mora-Ripoll classified the therapeutic efficacy of laughter as the effect of spontaneous laughter (triggered by external stimuli or positive emotions) and the effect of self-induced laughter (triggered by oneself at will).¹³ The effects seemed to differ depending on the nature of the laughter.

Fredrickson identified the molecular mechanisms underlying the prospective health advantages associated

with psychological well-being by analyzing leukocyte basal gene expression profiles in 80 healthy adults.¹⁴ They were assessed for hedonic and eudaimonic well-being, as well as potentially confounding negative psychological and behavioral factors.

The researchers found that people with the high level of happiness that comes from having a deep sense of purpose and meaning in life (eudaimonic well-being) had favorable gene expression in their immune cells. They had low levels of inflammatory gene expression and a strong expression of antiviral and antibody genes. Happiness derived from living a purposeful life was found to be better for the body than selfish satisfaction.¹⁵ They likely express natural laughter during their happiness.

I organized Smile Sun Methodology, a type of laughter therapy.⁴ It gave people a sense of wellbeing even in stressful times. In general, patients with advanced cancer had lower immunity levels, which declined further with surgery or chemotherapy.¹⁶ Chemotherapy patients who undertook the Laughter Therapy using the Smile-Sun Methodology during treatment in hospital showed significantly higher levels of immunity.¹⁷ The results of this study indicated that patients with gastrointestinal cancer who undergo laparoscopic surgery or chemotherapy for stomach or colorectal cancer benefited from a formal program of psychotherapeutic support during the in-patient hospital stay in terms of immunological improvement. Laughter therapy works for patients with physiological stress as well.

The treatment elicited an increase in hedonic well-being, optimism and sleep quality, along with a decrease in diastolic blood pressure.¹⁸ Improvements in subjective well-being intervention were correlated with increased sleep quality and reductions in blood pressure, but there were no relationships with cortisol. This brief intervention suggests that subjective well-being may contribute towards lower morbidity and mortality through healthier biological function and restorative health behaviours.¹⁸

■ Brain is created for human beings to be happy

Natural laughter activated recovery. In order to increase natural healing, it is essential for medical staff to have a positive attitude and methods to elicit laughter from patients to give them a sense of security. In order to do so, the consciousness of medical staff must be changed.¹⁷

Turner issued a hypothesis of radical remission of cancer.¹⁹ I would like to issue the hypothesis that laughter works on not only the psychological channel to the body, such as the immune system, but also works directly on muscle activity through the center of the brain.

We hope that natural healing and satisfaction with treatment will increase, that the quality of medical care and the treatment environment will be enhanced, and that social acceptance of this program will be improved.

Our study suggests that greater happiness, self-acceptance, efficacy and community involvement are realistic goals that can be achieved using an intensive short-term workshop intervention called the Smile-Sun Method. Laughter therapy may have not only a psychosomatic effect, but also direct physiologic effects.

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A Study on the Cost of Issuing Social Healthcare Corporation Bonds



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■ Abstract

The “Social Healthcare Corporation” system was established on 1 April 2007 as a result of the revised Japanese Medical Care Law. As of 1 October 2014, 234 corporations are certified Social Healthcare Corporations. These corporations are allowed to issue public bonds. However, to this day (1 December 2014), no bonds have been issued. In this paper, we focus on cost analysis with respect to issuing public bonds.

■ Foreword

Social Healthcare Corporations were created as a result of revisions in the 5th Japanese Medical Care Law (with the new inclusion of Article 42-2), which came into force on 1 April 2007. These corporations are responsible for providing enhanced public regional healthcare and are wholly non-profit organizations. Healthcare Corporations were founded on the expectation that they would provide the five services that ensure emergency medical care (namely, emergency care, disaster care, care to remote areas, perinatal care and paediatric emergency care).

These five services are the so-called ‘unprofitable’ healthcare fields. Funding for basic facilities and business operations is required in all five services. However, Social Healthcare Corporations are private and cannot expect to receive the same subsidies as received by state/public hospitals. As a result, a scheme was legislated in Article 54, 2-8 of the Medical Law, permitting Social Healthcare Corporations to raise funds by issuing public bonds. In this study, we refer to the public bonds issued by Social Healthcare Corporations as Social Healthcare

Corporation Bonds.

As of 1 October 2014, 234 Social Healthcare Corporations have been certified.¹ Yet, in the past seven years (to December 2014), not a single Social Healthcare Corporation Bond has been issued. This paper analyses the reasons for this lack of bond issuance and focuses on the cost of procuring funds.

Our research concludes that Social Healthcare Corporation Bonds are unlikely to be issued in the current financial and bond market climate because the interest payable on such an issuance would be higher than the interest on funds borrowed from a bank or through medical welfare mechanisms. To promote the five services provided by Social Healthcare Corporations, other ways to procure funding are required in place of Social Healthcare Corporation Bonds.

■ Main text

● Background of the introduction of Hospital Bonds

The technical term Hospital Bond does not exist in finance. Generally, all bonds issued by hospitals and local authorities to raise funds for healthcare institutions are called Hospital Bonds. Hospital Bonds may be organised by the issuing party. Firstly, bonds may be issued by healthcare institutions (as evidentiary securities of cash loans for consumption). These bonds can be divided into three categories: (1) Regional Healthcare Bonds; (2) Medical Institution Bonds and (3) other private placement bonds. Secondly, bonds can also be divided into (4) Social Healthcare Corporation Bonds, which are marketable

securities issuable by Social Healthcare Corporations; (5) Association Bonds issued by medical cooperatives; (6) Hospital Bonds issued by hospitals established through medical associations; (7) Asset-Backed Securities (ABS) issued by Special Purpose Companies (SPC) as part of the process of liquidating hospital assets and (8) Public Bonds issued by local governments to develop hospital facilities.² Thus, the term Hospital Bonds includes a wide variety and diverse range of bonds. In the remainder of this paper, we assume that Hospital Bonds are issued by healthcare corporations (i.e. the bonds as described in (1), (2) and (4)).

The purpose of Hospital Bonds is to procure long-term funding. Bank loans cover any required short-term funding.¹ Provided that healthcare corporations comply with the Act Regulating the Receipt of Contributions, Receipt of Deposits, and Interest Rates (otherwise known as the Contributions Act), they are allowed to procure capital from funders in the form of bonds.

First, we examine the bonds previously mentioned in (1) Regional Healthcare Bonds and (2) Medical Institution Bonds to understand the characteristics of the Social Healthcare Corporation Bonds that are the subjects of this research. Regional Healthcare Bonds and Medical Institution Bonds were developed before Social Healthcare Corporations; although not many examples of these types of bond issues exist.

● Regional Healthcare Bonds

Regional Healthcare Bonds refer to derivative hospital bonds issued in accordance with the guidelines proposed by the Association of Japanese Healthcare Corporations in December 2003 in its ‘Research Report on Healthcare Corporations and Fund-Raising Methods’. The aim of the Association of Healthcare Corporations in developing these voluntary guidelines was to allow self-regulation in the industry regarding the procurement of funds in the form of corporate healthcare bonds. The main criteria for the issuance of these bonds are as follows:

- Target Issuers: Healthcare corporations that have been

- soundly managed for the past three years
- Purpose of Issue: Acquisition of assets and investment in systems to help regional healthcare
- Maximum Amount: 490 million JPY
- Maximum Number of Investors: 49
- Term: Number of years in the statutory useful life of the asset acquired, or less. If the term is five years or more, as a rule, repayment procedures should be executed throughout the term.
- Interest Rate: ‘standard rate of interest’ (newly issued long-term government bond yield + 1%) with a CAP, where CAP (maximum interest rate) is the standard rate of interest × 2.
- Return: Unsecured/ not guaranteed
- Purchasers: Subscriptions from affiliates of the issuing healthcare corporation’s CEO are to be one-third or less of the total; transfer of instruments is not allowed.
- Disclosure: Financial details to be disclosed at a meeting of creditors to be held once every fiscal year.

A characteristic of Regional Healthcare Bonds is the manner in which investors are asked to accept the concept of socially responsible investment (SRI), as hoped for by the issuing party. Investors in Regional Healthcare Bonds are assumed to be residents within the medical practice area.

Although these bonds are issued by private healthcare corporations, their merit as financial instruments for investment is not emphasised to investors; rather, their value in terms of the social significance of the development and sustainability of regional healthcare is highlighted.

As financial instruments, these bonds are unrated, unsecured and carry no guarantees. Their interest rate is the standard rate (= newly issued long-term government bond yield + 1%), with a CAP; as such, the bonds are not intended for debt capital markets or secondary debt markets.

The exact number of Regional Healthcare Bonds that have been issued is unclear because no obligation exists to publicly report such issuances; however, a number of cases have been observed. In terms of the history of hospital funding, Regional Healthcare Bonds have been significant in that they introduced the hospital sector to the concept of raising capital by issuing hospital debt.

¹ Commercial paper (CP) is a short-term bond funding instrument. CP is an unsecured debt solely issued on the basis of a company’s creditworthiness; as such, CP can only be issued by blue-chip companies. Generally, CP has a term of one month or less and is issued in blocks of several tens of billions of yen, indicating that medical institutions are not included in the remittance of CP.

● Medical Institution Bonds

Medical Institution Bonds are issued in accordance with the guidelines published in October 2004 by the Medical Control Board of the Ministry of Health, Labour and Welfare.

The guidelines provide the main criteria for the issuance of these bonds, as follows:

- Target Issuers: Healthcare Corporations; organisations that have shown positive pre-tax net profits for three consecutive fiscal years or more and capital adequacy ratios of 20% or more.
- Purpose of Issue: Restricted to the acquisition of assets (for example, land and buildings)
- Investors: Not limited to parties affiliated with the issuer. Transfer restrictions to be decided in advance of the issuance.
- Disclosure: Financial details to be disclosed once every fiscal year and financial statements to be made available for viewing.
- Audit: An audit is to be performed by a certified public accountant or an audit firm in the following cases: If the amount of debt existing after the issuance of a Medical Institution Bond is 10 billion JPY or more; if the amount of a single issue is 100 million JPY or more; or if 50 or more purchasers exist (note that in circumstances other than these, having a certified public accountant or audit firm perform an audit when issuing Medical Institution Bonds is also advisable).

Although Medical Institution Bonds theoretically qualify as marketable securities in that they publicly recognise the right to claim repayment of debt, among other terms, the Ministry of Health, Labour and Welfare has specified in the guidelines that the bonds do not qualify as marketable securities as per the provisions of Article 2 of the Securities and Exchange Act (now the Financial Instruments and Exchange Act).

One characteristic of Medical Institution Bonds is the strong demand for the disclosure of financial information. Significant requirements also exist for certified public accountants or audit firms to perform audits. However, the acquisition of a bond rating is left to the discretion of the healthcare corporation and bonds may be issued with no rating. Investors need to study the financial statements and make their own decisions on redemption risk.

The guidelines on interest rates stipulate that the 'standard rate of interest' should be the newly issued long-

term government bond yield + 1%, which is published two months before the issue date. The guidelines also give the issuer the option to designate the maximum interest rate as the lower of (1) and (2), where (1) is the standard rate of interest $\times 2$ and (2) is the standard rate of interest + 2%. In other words, these bonds are designed as derivatives that avoid risks associated with procurement costs for issuers.

Healthcare corporations face stringent conditions in terms of the restrictions on the use of funds procured from Medical Institution Bonds and in terms of the audits to be performed by audit firms. Although these instruments are called Medical Institution Bonds, healthcare corporations have never been able to use them to procure funding from the capital markets. Medical Institution Bond issuances are not subject to regulatory reporting requirements; therefore, we cannot know exactly how many such bonds have been issued. However, similar to Regional Healthcare Bonds, not many examples of Medical Institution Bonds exist and large sums of money are not being raised.

However, the guidelines for Medical Institution Bonds have served as a springboard for healthcare corporations to begin raising funds through the issuance of bonds. Banks that service medical institutions have bought all, or the majority of, the bonds issued by these institutions. Referring to this type of hospital bond purchased by banks as a Medical Institution Bond has become common practice. However, strictly speaking, whether such a bond conforms to the guidelines for Medical Institution Bonds is unclear and has yet to be questioned. The original guidelines from the Ministry of Health, Labour and Welfare were not enforceable and the requirement for audits to be performed by audit firms proved a significant hurdle for healthcare corporations. In practice, virtually all of the Medical Institution Bonds issued have been in the form of hospital bonds purchased by banks. The term Medical Institution Bond is well known and the hospital sector's awareness of their existence has been growing. However, for all intents and purposes, Medical Institution Bonds, as per the strict definition given in the Ministry of Health, Labour and Welfare's guidelines, have virtually disappeared.⁵

As previously shown, healthcare corporations are looking into hospital bonds as a fundraising vehicle and are actually issuing bonds. To do so, they have been examining Regional Healthcare Bonds and Medical Institution Bonds and issuing hospital bonds that have

been purchased entirely by banks. Therefore, healthcare corporations are approaching the final and most advanced phase for bonds, namely, the issuance of public debt.

Note that in terms of legal status, Regional Healthcare Bonds and Medical Institution Bonds described in the guidelines do not qualify as private placement (small/professional private placement) securities under the Financial Instruments and Exchange Act; rather, they are certificates issued as evidence of monies borrowed as loans for consumption under the provisions of the Civil Code. Meanwhile, Social Healthcare Corporation Bonds and private placement bonds qualify as marketable securities under the Financial Instruments and Exchange Act and, as such, have a different legal status. Purchasers of marketable securities are eligible for the investor protection provided in the Financial Instruments and Exchange Act.

■ Social Healthcare Corporation Bonds

● Social Healthcare Corporation Bonds

As noted in the foreword to this paper, the Social Healthcare Corporation system was launched through the enforcement of revisions to the 5th Medical Law on 1 April 2007. By 1 October 2014, 234 organisations were recognised as Social Healthcare Corporations by prefectural governors.

Social Healthcare Corporations are medical institutions charged with ensuring the provision of emergency healthcare and other services. Social Healthcare Corporation Bonds were created to provide these corporations with a dedicated vehicle for raising funds. However, to date, no examples of any such bond issues exist. The design of the Social Healthcare Corporation Bond system and its legalisation was carefully examined from a legal and accounting perspective. However, surveys, examination and research on the practical aspects of the bonds are still developing.

The legal basis for Social Healthcare Corporations is in securities of the Social Healthcare Corporation Bonds from Section 6 (Healthcare Corporations), Paragraph 4 of the Medical Law (Article 54, 2-8). Social Healthcare Corporation Bonds are assumed to be public debt traded on debt capital markets and secondary bond markets (though these can also be publicly placed). On this point they are vastly different from Medical Institution Bonds

and Regional Healthcare Bonds that are certificates of evidence for cash consumption. Further, Social Healthcare Corporations have issuances of both Regional Healthcare Bonds and Medical Institution Bonds as options for raising capital. Below are the public offerings issued by Social Healthcare Corporations as “Social Healthcare Corporation Bonds”.

The main terms and conditions for Social Healthcare Corporations and Social Healthcare Corporation Bonds are as follows:

- Issuers: Social Healthcare Corporations, foundations or non-equity associations; one-third or less of the issue to be allocated to affiliates of the issuer.
- Purpose of Issue: To contribute to services charged and to ensure the provision of emergency medical care and other medical services.
- Conditions of Issue: Conditions to be determined on a case-by-case basis (for example, use of funds, aggregate amount of the issuance, interest rate, redemption method, redemption deadline, interest payment method, whether or not bond certificates will be issued, payment date).
- Corporate Bond: Regarded as a corporate bond as stipulated in the Secured Debentures Trust Act.
- Purchasers (in the case of bonds for public subscription): Non-specified, multiple participants in the bond markets. Bonds are transferable.
- Audit: Financial statements need to be audited for issues larger than a certain size (i.e. prospective assets of 10 billion JPY or more, liabilities of 5 billion JPY or more and income of 1 billion JPY or more).

Social Healthcare Corporations that issue Social Healthcare Corporation Bonds must have an audit report prepared by a certified public accountant or an audit firm. Moreover, disclosing (making available for public viewing) and notifying the prefectural authorities of business reports, financial statements and audit reports is mandatory. Accounting details are stipulated in the ‘Regulations on the Terminology, Format and Compilation Method of Financial Statements for Social Healthcare Corporations that Issue Social Healthcare Corporation Bonds’ (Article 38 of the Ordinance of the Ministry of Health, Labour and Welfare; 30 March 2007).

When issuing public debt, the main underwriter reviews the bond underwriting for the securities; a lead manager acts as agent for the issuance of the bonds;

and either a securities company or the Japan Securities Depository Center (JASDEC) executes their distribution.⁴ Such transactions between medical institutions and firms in the securities business are the first step for both sides.

Rating Social Healthcare Corporation Bonds issued is not mandatory. However, in the debt markets, public bonds must be rated by a ratings agency and, in practice, an investment grade rating of BBB or greater is required. Although some public bonds are issued in amounts of several billion yen, for issues to be denominated in blocks of ten billion yen is normal practice.

As abovementioned, if a Social Healthcare Corporation issues a Social Healthcare Bond, its level of management and accounting must be significantly improved to meet the requirements. To date, no Social Healthcare Corporation has issued any such bond.

In this paper, we attempt to ascertain the possibility of raising funds through the issuance of Social Healthcare Corporation Bonds in terms of the cost of such funding. To do so, we simulate the ratings that such bonds are likely to attract and the yields that the issues likely provide.

● Ratings and hospital fund-raising

Investors (bond purchasers) use the ratings awarded by ratings agencies when making investment decisions. A bond rating represents a relative assessment of a bond's creditworthiness in terms of redemption.

Bonds are rated in four main categories: A, B, C and D. The A, B and C ratings are further divided into 10 rank categories, which are (in descending order) AAA, AA, A, BBB, BB, B, CCC, CC, C, and D. A bond's rating indicates its principal redemption risk to potential investors, in other words, the risk of redeeming the principal invested. A rating of BB or less is considered speculative. Equities are not rated; instead, the track record of the company is used to anticipate improvements in the stock purchase price and dividends. However, for bonds investors only receive the predetermined amount of the principal and interest; even with steady corporate performance, some bonds may become worthless. This characteristic has created demand for ratings that are analytically evaluated by professional third-party rating agencies. Although healthcare corporations considering future bonds issues have been awarded ratings as issuers (long-term, senior

debt ratings), each bond issued must also be rated.ⁱⁱ

The United States has developed a debt market on the basis of the economic logic of risk and return, with investors also exhibiting logical judgment and behaviour. Even if a bond has high risks associated with the redemption of principal, a yield that provides a high rate of return equal to its risk ensures the bond's issuance and liquidity of circulation. To allow investors to hold part of their portfolio in high risk/high return bonds, a market was developed for 'speculative' ratings of BB and lower and for unrated junk bonds; this market is booming.

In Japan, individual investors, companies and investment management companies draw a line and clearly distinguish between (1) investment grade ratings of BBB and higher and (2) speculative (or junk bond) ratings of BB and lower. A characteristic feature of Japanese investors' bond operations is risk aversion that emphasises the safety of the principal and the contracted interest payments, rather than high profits. As a result, investments are not made in bonds classified as non-investment grade. In addition, junk bond issuers do not offer high returns to investors. Economic logic is inexistent for high risk/low return bonds. As previously shown, Japan is characterised as not having developed a junk bond market.ⁱⁱⁱ

In practice, Regional Healthcare Bonds and Medical Institution Bonds, as well as Medical Institution Bonds purchased by banks, are all traded between associates or among small numbers of investors and, as such, do not require ratings. In the guidelines for Medical Institution

ⁱⁱ As stipulated in the 'Regulations on the Terminology, Format and Compilation Method of Financial Statements for Social Healthcare Corporations that Issue Social Healthcare Corporation Bonds' (Ordinance of the Ministry of Health, Labour and Welfare No.38; 30 March 2007). The regulations call for advanced standards of accounting with respect to accounts for retirement benefits, tax effects and financial instruments. Audit reports prepared by a certified public accountant or an audit firm are mandatory for the issuance of *Social Healthcare Corporation Bonds*, and ratings agencies require audit reports when awarding ratings. To date, no *Social Healthcare Corporation Bonds* have been issued and, consequently, no track record of bond ratings exists. This paper uses issuer ratings in place of bond ratings for discussion purposes. Note that audit reports from certified public accountants or audit firms are not required for issuer ratings.

ⁱⁱⁱ With the exception of some bonds that act as securities to evidence monies for consumption under the provisions of the Civil Code, such as school bonds and regional healthcare bonds, among others, the relationship between the fundraiser and the fund provider and good connections are more important than the economic rationality of risk and return.

Bonds, the Ministry of Health, Labour and Welfare leaves the attachment of ratings to the discretion of the issuer. Medical Institution Bonds that are underwritten by a bank are not rated, because the purchasing bank guarantees payment (i.e. the rating of the guarantee bank is attached to the bonds). Significant expense and time need to be spent on administrative matters to obtain a rating, making the pursuit of a rating an uneconomical task unless the bond issue is for a significant amount.

In contrast, Social Healthcare Corporation Bonds are public bonds. In debt markets, newly issued bonds are purchased by unspecified multiple investors, and the existing medical bond issues are circulated. As previously noted, Japan's corporate bond market requires an investment grade rating of BBB or higher, and Social Healthcare Corporation Bonds are no exception.

● Current status of medical institution ratings

Table 1 shows the history of medical institution ratings as of 1 December 2014, as published by ratings agencies. These ratings pertain to the issuer. National hospital organisations and national and private university hospitals that hold ratings are included in 'medical institution ratings' in the broad sense of the term. However, this paper

targets the ratings for Social Healthcare Corporations, healthcare corporations, religious corporations that manage hospitals, and social welfare corporations (or so-called private hospitals) for analysis.

The first rating given to a medical institution was BBB+, which was awarded to the Hakuhokai Group in the city of Ako, Hyogo Prefecture in April 2003 by Welfare Management Assessment K.K., part of the International University of Health and Welfare Group. In the subsequent 10 years, 17 corporations had ratings published (Table 1). Some of these corporations have had their ratings periodically renewed and others have had their ratings withdrawn.

In February 2010, the Fitch Ratings Inc. ratings agency stopped assigning ratings to Japanese medical institutions. Today, the only agency awarding ratings to such institutions is the Japan Credit Rating Agency (JCR), implying some difficulties in the task of rating Japan's medical institutions. Of the 8,540 hospitals (as of 1 October 2013), only 17 corporations were rated, indicating that medical institutions have no great need to acquire ratings. Table 1 shows that of the 11 medical institutions currently holding a rating, three have an A rating, whereas eight have a BBB rating. Only one Social Healthcare Corporation obtained a rating.

■ Table 1: Track record of (published) ratings awarded to medical institutions

	JCR (Japan Credit Rating Agency)	R&I (Rating and Investment Information, Inc.)	Welfare Management Assessment K.K.	Fitch Ratings
AAA				
AA				
A	Religious Juridical Person Japan Mission Yodogawa Christian Hospital (2014.9.29 - Renewal)			Mitsui Memorial Hospital - A Social Welfare Corporation (2004.3.19)
A-	Keiai-kai - A Healthcare Corporation (2014.4.15 - Renewal)			Keiai-kai - A Specified Medical Corporation (2008.1.25 - Renewal)
	The Takeda Health Foundation - A General Incorporated Foundation (2014.4.2 - Renewal)			
BBB+	Southern Tohoku Social General Hospital - A Social Welfare Corporation (2014.9.9 Renewal)		Hakuhou-kai - A Medical Corporation (Awarded in April 2003) (The first hospital rating received in Japan)	
	Japan Medical Alliance - A Social Healthcare Corporation (2014.9.24 - Renewal)			
	Cranial Nerve Disease Research Institute - A General Incorporated Foundation (2014.1.9 - Renewal)			
BBB	Gyokusyukai - A Specified Medical Corporation (2013.4.10 - Renewal)	Sanko-kai - A Medical Corporation (2008.4.8 - Renewal. 2011.12.6 - Withdrawn)		Yuai-kai - A Specified Medical Corporation (2008.4.23 - Renewal)
BBB-	Tama Akira-kai - A Healthcare Corporation (2014.11.14 - Renewal)			
	Keiyu-kai - A Medical Corporation (2014.3.25 - Renewal)			
	Tokushin-kai (Tokushin-kai Group) - A Healthcare Corporation (2013.10.13 - Renewal)			
	Josui-kai - A Medical Corporation (2007.12.4 - Newly Awarded. 2011.4.28 - Withdrawn)			
BB				Caress Sapporo - A Specified Medical Corporation (2007.10.10 Renewal)

Note 1: Posted on the websites of the respective medical institutions as of 1 December 2014 (with ratings from each issuer). In addition, ratings may include those already granted to a medical institution or others, but not yet made public.

Note 2: Fitch Ratings stopped assigning ratings to Japanese medical institutions in February 2010. By then all existing ratings had been cancelled. Keiai-kai Healthcare Corporation (Hyogo Prefecture) rated by JCR and Keiai-kai Specified Medical Corporation (Okinawa Prefecture) rated by Fitch Ratings are separate corporations.

Note 3: Certain medical institutions are affiliated with national university hospital organizations, national universities, and private universities that have been awarded ratings; however, they are not included in this table, which considers only Hospital Bonds.

● Estimated yields for Social Healthcare Corporation Bonds

We estimate the compound yields for Social Healthcare Corporation Bonds in the issuing market and examine the feasibility of issuing such bonds in terms of financial costs by comparing these yields to interest rates on borrowing in the form of bank loans.

To date, no examples of Social Healthcare Corporation Bond issues exist. Consequently, our method uses compound yields based on bond ratings and the remaining terms of public debt that are already issued. From this data, we analyse and examine estimated yields for Social Healthcare Corporation Bond issues and compare these yields to, for example, competitive bank loans.

We use data from the Rating Matrix Table for 25 November 2014 as published by the Japan Securities Dealers Association for compound yields and the

remaining terms for each rating category. The ratings data provided for 25 November 2014 came from two companies: JCR and Rating and Investment Information Inc. (R&I). Of the two companies, this paper uses the data from R&I, which had a larger number of rated bond issue samples. We estimate Social Healthcare Corporation Bond compound yields for the separate remaining terms by assuming R&I ratings of such bonds. Table 2 shows that few bond issues had remaining terms of more than 12 years, and all the issues rated BBB had terms of less than 10 years. Furthermore, no bond issues were rated BB or lower (i.e. junk bonds).

We use the R&I rating data in Table 2 to trace the yield curve in Figure 1, with the coordinate axes set as the compound interest (%) for the vertical axis and the remaining term (number of years) as the horizontal axis.

■ Table 2: Ratings matrix (estimated compound yields for Social Healthcare Corporation Bonds) by term and rating

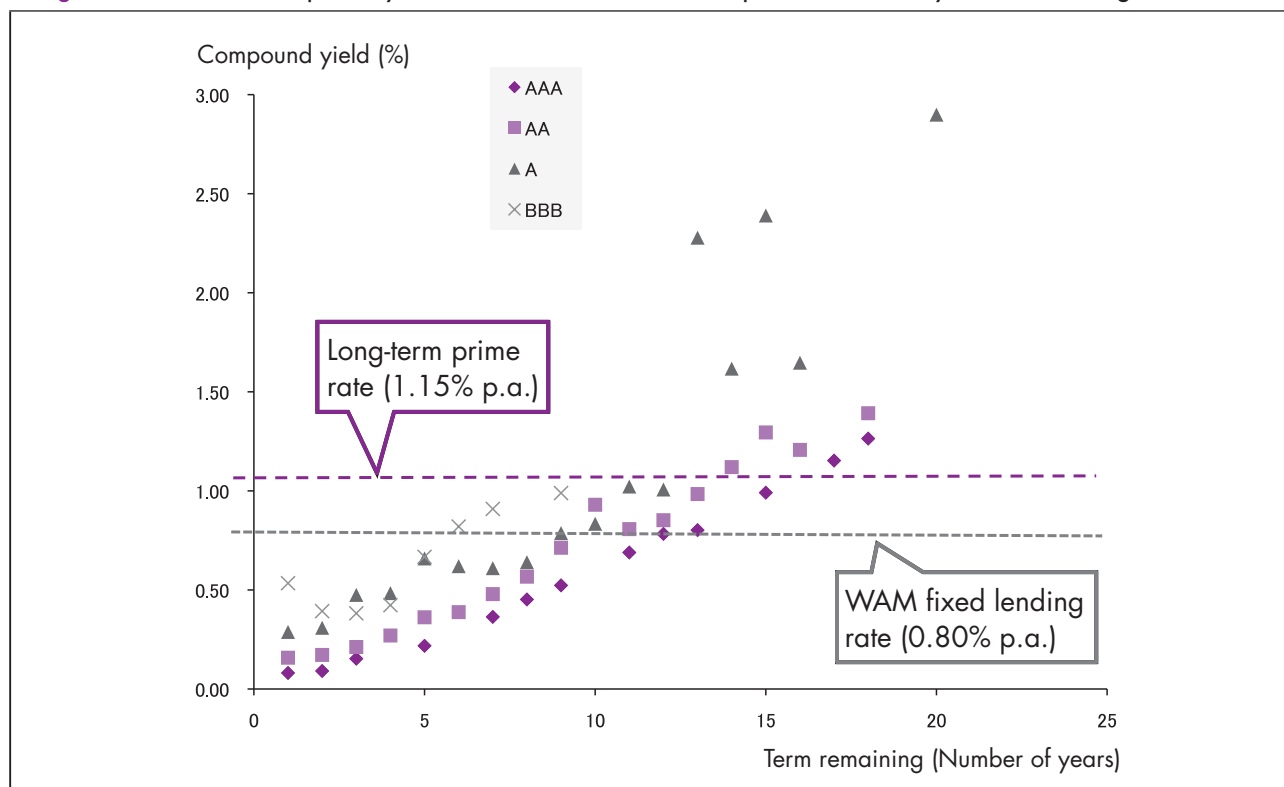
Units: Compound yield (%); Rated bond issues (Number of samples)

		Rating									
		AAA	Number of samples	AA	Number of samples	A	Number of samples	BBB	Number of samples	BB	B
Years to maturity	1 year	0.081	1	0.158	170	0.288	151	0.534	33		
	2 years	0.091	1	0.172	100	0.309	103	0.393	6		
	3 years	0.153	4	0.212	96	0.475	82	0.382	7		
	4 years			0.27	85	0.484	73	0.423	5		
	5 years	0.218	1	0.362	71	0.659	48	0.667	3		
	6 years			0.388	49	0.62	46	0.82	1		
	7 years	0.364	2	0.479	24	0.61	21	0.909	1		
	8 years	0.452	4	0.567	22	0.64	16				
	9 years	0.523	2	0.713	37	0.787	29	0.989	2		
	10 years			0.93	10	0.834	2				
	11 years	0.689	1	0.807	6	1.022	13				
	12 years	0.783	1	0.852	4	1.007	2				
	13 years	0.802	1	0.984	4	2.278	1				
	14 years			1.12	3	1.617	5				
	15 years	0.991	1	1.295	4	2.39	2				
	16 years			1.207	2	1.647	1				
	17 years	1.153	2								
	18 years	1.264	1	1.392	2						
	19 years										
	20 years					2.899	1				

Source: JSDA's "Ratings Matrix" published 25 November 2014 (rating information provided by the Japan Credit Rating Agency)

Note: Compiled on the basis of ratings and quotes reported as of 3pm on 21 November 2014.

■ **Figure 1:** Estimated compound yields for Social Healthcare Corporation Bonds by term and rating



Source: See "Ratings Matrix" by Japan Securities Dealers Association (JASD) 25 November 2014

Note 1: Long-term prime rate as of 25 November 2014 = 1.15% p.a. WAM medical loan (for hospital new construction funding; fixed rate; maximum 20 year term) = 0.80% p.a.

Note 2: WAM is the Welfare and Medical Service Agency.

We find deviations in coordinate points for (1) A ratings (which had few samples) with a remaining term of 13 years or more and (2) the plots of BBB ratings with remaining terms of one year. However, each ratings category shows a bond market with an upward sloping yield curve with compound yields increasing as the remaining term became longer.

If we compare the ratings, we cannot observe any significant difference between the compound interest yields of AAA and AA. Between AA and A, a lower rating results in a higher compound yield. The number of bond issues rated BBB with a long remaining term are negligible or nil, and even if such a bond issue existed, the cost would be high.

For A rated bond issues, the compound yield of the issues with a remaining term of 13 years or more are significantly higher. From the number of samples and yields for each remaining term, using A and BBB investment grade bonds with ultra-long-terms to raise funds in the public debt market is not easy. Furthermore, there are no junk bond issues rated BB and lower.

● Comparison of interest rates for funds raised through Social Healthcare Corporation Bonds (direct financing) and funds raised through bank loans and WAM medical loans (indirect financing)

In Figure 1, we replace the compound yields with the yields estimated in the event that a Social Healthcare Corporation issues a Social Healthcare Corporation Bond.^{iv} Japan's private hospitals use WAM (Welfare and Medical Service Agency) medical loans and private bank loans to raise funds. We performed our analysis by comparing (1) the yields estimated in the event that a Social Healthcare Corporation issues a Social Healthcare Corporation Bond, with (2) WAM medical loan rates and (3) long-term prime rates, which are used to determine the interest rates

^{iv} The attributes of the issuer make no difference to the rating awarded. As a result, ratings between a healthcare corporation and a stock company can be easily compared.

applied to long-term private bank loans.^v

A review of **Figure 1** indicates that the point at which the funding costs diverge for AAA and AA ratings is where the remaining term of the bond is approximately 13–15 years. In other words, a simple comparison of the face value interest rates shows that procuring funds for 10 years or less using Social Healthcare Corporation Bonds is less expensive. Conversely, using WAM medical loans or bank loans to raise funds for 15 years or more is less expensive.

However, when the rating is A, the point at which funding costs diverge is reduced to approximately 11 or 12 years; clearly, funds raised using Social Healthcare Corporation Bonds are expensive for terms equal to or longer than 13 years. Moreover, a difference in yields exists between A and AAA or AA, which is in line with the order of the rank. Meanwhile, Social Healthcare Corporations with an A rating as an issuer are viewed as having a sound financial background and, as such, we assume that they will not face significant difficulty negotiating loans with banks (of course, depending on project details). In other words, Social Healthcare Corporations ranked A and higher will not use Social Healthcare Corporation Bonds to raise funds but, instead, select a bank loan or a weighted average maturity (WAM) loan. With respect to interest rate costs, raising funds using Social Healthcare Corporation Bonds will not be easy considering that, to date, the highest issuer rating awarded to a medical institution is A.

^v Strictly speaking, we simply cannot compare the borrowing interest rates for Social Healthcare Corporation Bonds with those for bank loans or WAM medical loans. For example, in the case of Social Healthcare Corporation Bonds, the principal is repaid on the redemption date in a lump sum, whereas scheduled repayments are contracted for bank loans and WAM medical loans, thus reducing the loan principal over time. Interest on Social Healthcare Corporation Bonds is deferred and paid once or twice a year; deferred interest payments are made quarterly for WAM medical loans and interest payments on bank loans are made in accordance with the method specified in the individual monetary loan for consumption agreement. Furthermore, the interest rate on loans borrowed from private banks is not the long-term prime rate shown in **Figure 1**; rather, it is the long-term prime rate plus a smaller increment. The borrowing interest rate differs from case to case depending on the borrower, the borrowing period and the level of project risk. Social Healthcare Corporation Bonds and WAM medical loans both use fixed interest rates; however, bank loans based on long-term prime rates use floating rates of interest. As previously mentioned, although individual areas need detailed adjustment, this paper compares yields and face-value interest rates.

Considering the interest rate costs associated with raising funds using the previously mentioned Social Healthcare Corporation Bonds, we make the following conclusions:

- (i) With a rating of A or higher and a remaining term of approximately 12 years, we expect cost benefits for funds raised through direct financing (i.e. through the issuance of Social Healthcare Corporation Bonds). However, when the remaining term is longer than 15 years, indirect financing (from banks, among others) is more beneficial with respect to borrowing costs.
- (ii) Given a rating of BBB, no advantages related to funds raised using Social Healthcare Corporation Bonds were observed. Consequently, in the current financial climate, Social Healthcare Corporations ranked BBB or lower will not issue Social Healthcare Corporation Bonds; instead, they will indirectly raise financed funds in the form of loans.
- (iii) No Social Healthcare Corporation Bonds were issued for ratings of BB and lower, or for entities without rating.

● A brief consideration of matters other than interest rates

Three main reasons exist for the lack of issuances of Social Healthcare Corporation Bonds: (1) high interest rate procurement costs when compared with bank loans or WAM medical loans; (2) relatively high all-in costs; and (3) difficulties associated with the terms and conditions needed to issue bonds for public subscription. In addition to the consideration of interest expenses payable to the previously mentioned investors, issuing Social Healthcare Corporation Bonds is not simply about raising funds for the following reasons: (1) commissions need to be paid to the lead managing underwriter, the ratings agency, the managing firm, the depository centre, and the audit firm; (2) for low-amount short-term funding, economies of scale do not exist, making such bonds a relatively expensive procurement method with respect to all-in costs; and (3) certified audit reports are required from a certified public accountant or an audit firm to issue Social Healthcare Corporation Bonds.

However, setting aside interest rates, Social Healthcare Corporation Bonds have the following advantages: (1) they do not usually require collateral or guarantees and (2) the principal is repaid in a lump sum at the deadline.

In addition, neither bank loan facilities nor collateral regimes need to be used. Conceivably, Social Healthcare Corporation Bonds issued for large amounts over a long term could be cost competitive with syndicated loans offered by banks. As such, we need to look into improving and developing these bonds as a fundraising vehicle for Social Healthcare Corporations.

■ Conclusion

Social Healthcare Corporation Bond yields in secondary debt markets are determined by the issuer's rating and the number of years remaining in the term. A breakdown of the track record of issuer ratings obtained by medical institutions in the past shows that of 17 corporations three achieved an A rating, whereas eight achieved a BBB rating. By applying the R&I ratings matrix and comparing Social Healthcare Corporation Bond yields with banks' long-term prime rates and WAM medical loan rates, we showed that Social Healthcare Corporation Bonds with a rating of A or higher and a remaining term of 13 years or shorter had lower interest rates. However, funds procured through Social Healthcare Corporation Bonds with other ratings and terms showed no significant interest rate advantage. Issuing Social Healthcare Corporation Bonds rated BB or lower is virtually impossible. In conclusion, although Social Healthcare Corporations are charged with ensuring the provision of the five emergency medical services, these corporations will continue to opt for bank loans and WAM medical loans, rather than Social Healthcare Corporation Bonds as a source of funding given the cost factors in the current financial climate.

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「Japan Hospitals No. 35, July 2016」の原稿募集!

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|---------|---|
| 1. 募集内容 | 本誌は日本の医療や病院の実情を海外に紹介、PR するもので、看護の実態や医療制度の問題なども含み、関連する論文や研究報告など他誌に発表されていないものとする。(国内既発表のもの翻訳で国外未発表のものは可) |
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