# Task Force Report on IT Strategy in the Healthcare Field

## May 2011

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**Introduction**

In recent years, Japan has entered the "advanced aging society," where one in five persons is a senior citizen and one in ten persons are 75 years old or older. In terms of the increase of medical expenditure, the largest contributing factor is the expense needed for medical care of the aged. At the same time, since there is rapid growth among the aged who need medical treatment and care services, nursing care of the aged is currently an important social mission. Along with lifestyle changes, coping with increased lifestyle-related diseases is an important concern, as these require medical care at medical institutions on a long-term basis.

Alternatively, when we consider the medical care system in the regional areas, we must cope with the tasks faced by the medical care system such as those in communities where physicians are in short supply and the like. In other words, we are faced with the task of building a medical care system whereby residents in the local communities can live with feelings of security

Overall, as the environment surrounding medical and care services in Japan is going through rapid changes, improvements and development of medical and care service systems and increased efficiency among them are required.

Furthermore, there is enhanced awareness of health among individuals while there are increases in the number of patients who require long-term treatments of chronic diseases. Along with this, there has been a change from the medical organization-led treatments to patient participation-type treatments.

In order to respond to these various tasks, sharing and coordination of information among various organizations and areas is becoming important. In this respect, regional collaboration of medical treatment and care among hospitals and clinics, which realize coordinated treatment of patients using appropriate role sharing among core hospitals and surrounding clinics, is essential. Sharing of information among patients for containing deterioration of chronic diseases is becoming more important, which includes participation of patients in initiatives. Coordination of information among different occupations is also becoming important which is indispensable for collaboration of medical treatments and care within the local community.

For these attempts at coordination and information sharing, the information and communication technology (IT) are expected to make major contributions with their capability in ease of accumulation and processing of large amounts of information. Although it is true that these attempts have already been done through the use of conventional media, it is possible to realize conveniences much different from the paper

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media, which would be made possible through IT by amply providing measures for security of information from leakage risks.

As for uses of IT in the area of medical treatment, the amount of electronic medical information is growing rapidly. This is due to proliferation of electronic medical records and electronic medical insurance claim data resulting from efforts based on past IT strategies. It is regrettable, however, that the interoperability among electronic medical record systems is not necessarily satisfactory. In other words, currently, benefits from electronic medical systems are not sufficiently felt by the users. As for electronic medical insurance claim data and the like, which are accumulating at the Ministry of Health, Labor and Welfare, individual medical organizations and insurers, more active use of administrative measures and management is required, including the need for analyses by third parties, for improvements in quality and efficiency of medical treatments and care.

In May 2010, the Strategic Headquarters for the Promotion of Advanced Information and Telecommunications Network Society (IT Strategic Headquarters) have decided upon "A New Strategy in Information and Communications Technology (IT)." At that time, in June 2010, IT Strategic Headquarters also decided upon the "Roadmaps" for steady realization of these strategies.

Our Task Force, under the directives from the Planning Committee, IT Strategic Headquarters, in August 2010, conducted hearings from many experts and related persons and exchanged opinions from broad perspectives on the following points: Bringing the "My Hospital Everywhere" (Japan's Personal Health Record service) concept into reality; Implementing seamless community-collaborated medical services; planning for efficient medical services using medical insurance claim data and others; and promoting pharmaceutical safety through the use of a medical information database.

As for the constituents of our Task Force, young and energetic members, suited for researching and examining responsibilities for realization of IT strategies for the next generation, are selected under the political leadership. Beginning with the third Task Force meeting, members from the Japan Medical Association, the Japan Dental Association, and the Japan Pharmaceutical Association took part as ad hoc constituents. Thus, we have established a system where opinions from the forefronts of medical treatment in Japan can be amply taken up along with other new viewpoints in our deliberations.

**1. Bringing the "My Hospital Everywhere" (Japan's Personal Health Record service) concept into reality**

**(1) Basic concept**

      The "My Hospital Everywhere" (Japan's Personal Health Record service, hereinafter referred to as "My Hospital Everywhere") concept enables individuals to receive their own medical and health-related information from medical institutions and the like and to maintain and manage it electronically. In concrete terms, individuals obtain their information from the medical institutions that voluntarily provide information via two-dimensional bar codes, mobile phones with IC cards, IC cards, and through on-line connection to the internet. Individuals are enabled to accumulate and manage their own medical and health-related information and view and present the information on tablet terminals and PC's and so forth.

      Through this, individuals can present their own past medical and health-related information to medical institutions and the like which they visit and can receive medical services based on that information. At the same time, individuals are able to actively utilize the information in their health management, since they have the advantage of having a grasp of their own current health condition. When presented with individuals' past medical and health-related information, medical institutions can use individuals' background information as a reference and gain a better understanding of the patients' current status, while engaging in treatment of the patients.

      With the new services come certain expenditures needed for installation and/or renovation of equipment and the like on the part of the medical institutions in order to provide individuals with the information. Thus, the information provision will start as a voluntary endeavor on the part of the participating medical institutions. It will be possible for the medical institutions that provide this information to improve upon patient satisfaction by providing the information desired by the patient.

      Below are the advantages of the system, for both individuals and institutions, in concrete terms. As mentioned in the Introduction, with the active use of information and communication technology, there should be advantages and conveniences, although they may also be attainable by the paper media.

＜ Advantages for individuals ＞

- Receiving medical care that is suited for individuals based on past records of medical treatment received and a dispensing history.
- Wherever the individuals may be in the country, it will be possible to convey medication history when receiving medical care. It will be possible to receive medical treatments like those from a primary care physician, primary care

dentist, or primary care pharmacist, who has knowledge of past medical treatment and medication dispensing histories.

- ➢ By presenting examination results from other hospitals and clinics, it would be possible for individuals to avoid duplicate tests, which may decrease expenses and time required to receive medical treatment.

- ➢ For pharmacies, it would be possible to receive/provide medication and dispensing records from past hospitals and clinics and prescription information from/to other pharmacies. This would make it possible for patients to avoid medications of contraindicated drugs and the like.

- ● Support for own health management with multifaceted information

- ➢ By taking advantage of health examination results and one's own assessment of health records; it will be possible to have a better sense of one's own health condition.

- ➢ It will be possible to receive health management services and the like by providing accumulated data.

- ➢ With continued active use of the "My Hospital Everywhere" services, there is a possibility for enhancing individual health awareness.

＜ Advantages for medical institutions and the like ＞

- ● When an individual comes to a medical institution for the first time, it would be possible to have an easy access to the patient's medical information such as medication records and so forth.

- ➢ It will be possible to easily and quickly access a patient's medical information, when the patient first comes to the medical institution.

- ➢ It will be possible to review examination history and results from other medical institutions. At the same time, it will be possible to make needed inquiries. Making an inquiry could become an important tool for promoting community-collaborated medical treatments.

- ● Easy retrieval of a patient's medical information, including medication records, and as necessary, including time of emergency

- ➢ Using the information presented by the patient himself/herself, it would be possible to have a grasp on records of the patient's treatment history. This would make it possible to conduct proper treatment in accordance with the patient's condition.

- ● Possible active use of health information held by patient in medical treatments

- ➢ It would be possible to reference health information such as health examination

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results and patient self-measurement data as necessary. This would make it possible to assess health conditions for patients on a long-term basis.

➢ All of the past examination data held by the patient, data useful for prevention of deterioration of chronic diseases can be referenced.

● For the medical institution and the like providing the information, it would be possible to improve upon the level of patient-satisfaction through provision of medical information required by the patient.

## (2) Ownership of medical and health-related information

The information provided with the "My Hospital Everywhere" concept possesses possibilities for provision of richer information compared to the conventional medical interview sheets and the like.

It should be noted, however, that the information provided with the "My Hospital Everywhere" concept is created by voluntary input by individuals, thus there are possibilities for partial lack of information. At the same time, certain sections of the information are based on the individual's voluntary entry on the sheet. This means that the information is presented to medical institutions and the like based totally on individual responsibility. The medical institutions and the like will be making decisions with their own responsibility, considering how dependable the information is. The information provided by the patient in the "My Hospital Everywhere" concept, therefore, is positioned as the reference information in providing medical treatment by physicians in such activities as medical examinations.

## (3) Medical and health-related information handled in the "My Hospital Everywhere" concept

The information handled by the "My Hospital Everywhere" concept is a detailed receipt for medical charges and dispensing information in the First-Phase Services of the Roadmaps. In the Second-Phase Services of the Roadmaps, those included will be health checkup and examination data, patient's discharge summary, test data, and health-related information. This information can be categorized into two types: data, which are objective facts, and information, which indicates the physician's observations and remarks.

It will be necessary to cautiously examine the information with the physician's observations and remarks, including the specific range of information, to be provided to individuals. On the other hand, test data provided by examinations conducted and provided by medical institutions, such as blood examinations and urinalysis (hereinafter

referred to as test data), data from health checkups and examination data (hereinafter referred to as health checkup and examination data), and health-related data measured by individuals such as daily blood pressure and body weight are personal data without a physician's observations and remarks. It would be important, therefore, to examine provision of information to individuals at the earliest possible timing.

Furthermore, in realizing the "My Hospital Everywhere" concept, in order to obtain collaboration from the medical institutions and the like that bear expenses for provision of information, it would be necessary to implement services beginning with clear advantages for these institutions at earliest possible timing. In concrete terms, these services could possibly include those pertaining to the following information: (i) the information considered to be effective when the patient first comes to these institutions, and (ii) the information considered effective for containing deterioration of chronic disease caused by lifestyle-related conditions, which are becoming major tasks in medical treatment in local communities.

From the above, to fulfill the realization of the "My Hospital Everywhere" concept, the Electronic Drug Notebook/Card will be provided. There will be clear advantages to medical institutions and the like. Then, individual participation-type Disease Management Service will be started, using the test data, health checkups and examination data, and health-related data. (For example, digitized version of the "Diabetes Clinical Path Notebook")

Information relating to medical treatment during hospitalization is very important for the patient's health management after remission and it is necessary to examine the provision of that information. As for Patient's Discharge Summary provided to the patient mainly in the form of physician's observations and remarks in simple and easy language, it is necessary to examine further such matters as the range of information to be provided to individuals considering the burden on the physician and the manner in which the patient receives the information. The detailed receipt for medical charges and the medication records, which is available when the patient is discharged from the hospital, describes the medical treatment processes while being hospitalized. When examining the provision of information to patients concerning medical treatments during hospitalization, the information contained in the detailed receipt for medical charges will be taken up.

Additionally, imaging data in the test data, such as CT and MRI, are very useful regarding a quick glimpse of the patient's condition. Confirming each imaging data in large amounts places unrealistic burden on physicians. For this reason, the Image-reading Report contained within the "My Hospital Everywhere" concept, has one

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or two images along with the physician's observations and remarks.

(4) **Managing organizations of the "My Hospital Everywhere" concept**

(a) **Outline of security measures for personal information in the medical field**

Personal information in the medical field could be an extremely sensitive issue, as a person may be at a great disadvantage if the past history of certain diseases is disclosed. The handling of information, therefore, requires caution.

For this reason, medical professionals such as physicians, dentists, pharmacologists, directors and insurers such as health insurance cooperatives are under confidentiality obligations when handling medical information and patient medical records. There are regulations in the Criminal Law (Penal Code) and Health Insurance Acts which forbid disclosing of confidential information that was made available at work. They are also subject to the Act on the Protection of Personal Information and the Guidelines for the Protection of Personal Information and the like.

Information processing businesses and ASP and SaaS businesses are commissioned to manage medical information by medical institutions[1] and insurers. Under the rules of the Guidelines for the Protection of Personal Information, with the commissioning contracts with the medical institutions and the like and insurers they are responsible for handling medical information in a limited manner with the prerequisite of division of responsibilities for pursuing the causes and making damage compensations, etc. under the supervision of medical institutions and the like and insurers

(b) **Managing organizations of the "My Hospital Everywhere" concept**

Managing organizations of the "My Hospital Everywhere" concept will be the managers of personal information (The managing organizations of the "My Hospital Everywhere" concept will be those who voluntarily manage the personal information provided by individuals and not those who provide services under the Concept. Hereinafter, the same shall apply.)

Nevertheless, Entities Handling Personal Information, even when they handle sensitive information when commissioned by individuals to manage personal medical information, would not come under regulations other than those under the Acts

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[1] Medical institutions and the like are organizations that directly provide medical treatments directly to patients, such as hospitals, clinics, midwifery center, pharmacy, visiting care station, etc. Hereinafter medical institutions、(Quoted from the Guidelines for Appropriate Handling of Personal Information by Medical and Nursing Care Businesses.)

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on Protection of Personal Information.

Managing organizations of the "My Hospital Everywhere" concept would, therefore, be limited to the following, when handling the sensitive information:

    (a) Medical institutions and the like and insurers

    (b) Information processing businesses and ASP and SaaS businesses commissioned in line with the Guideline for the Protection of Personal Information of the above (a) institutions and the like.

**(c) Major rules to be adhered to by the managing organizations**

Major rules to be adhered to by the managing organizations fall in the following four categories: (1) safety and management of personal information, (2) securing continuation of the organizational business, (3) securing portability of the personal information, and (4) effective and active utilization of personal information. If and when there are similar existing rules in the Guideline for Protection of Personal Information and so on in the medical treatment areas, those rules are to be applied for the time being. As for "securing portability of the personal information," it would be necessary to newly develop and improve upon the guidelines after the formation of new procedures.

| | Contents | Policy for the time being |
|---|---|---|
| Safety and management of personal information | -Rules (necessary conditions) on minimum security level to be secured by managing organizations for prevention of leaks and falsifications by a third party<br>-Rules for clarifyingon the scope of responsibility by managing organizations | -Handling sensitive medical information should be coped with by applying the existing guidelines for protecting personal information in the medical area. Some point out, however, that the rules in the guidelines are vague. When applying the guidelines, therefore, revision of the guidelines should be considered as necessary.<br>-Guidelines for safety management of medical information systems (Ministry of Health, Labor and Welfare)<br>-Guidelines for Information Processing Businesses Commissioned to Manage Medical Records (Ministry of Economy, Trade and Industry)<br>-Guidelines for safety and management when ASP and SaaS businesses handle medical records. (Ministry of Internal Affairs and Communications) |

| | | -Guidelines for Information Security Measures among ASP and SaaS businesses (Ministry of Internal Affairs and Communications) |
|---|---|---|
| Securing continuation of the organizational business | -Rules for handling of personal information when continuation of managing organizations' business becomes difficult due to bankruptcy, etc. | -The business continuation plans and the like for "Guidelines for Information Processing Businesses Commissioned to Manage Medical Records" will be applied for the time being. |
| Securing portability of the personal information | -Rules for making it possible for individuals to transfer medical and health-related information among "My Hospital Everywhere" services. | − In order to make it possible for individuals to transfer medical and health-related information among "My Hospital Everywhere" services, new rules will be made for the use of standard formats by the managing organizations so that individuals may take out accumulated information in a lump sum manner. |
| Effective and active utilization of personal information | − Rules for effective and active utilization of accumulated information at managing organizations | -When the accumulated information is used for proper objectives of the "My Hospital Everywhere" concept, the usage will be acknowledged as the "primary usage" of the data. These include the following cases: cases where the individuals use the accumulated information for their own use; cases where medical institutions and the like (managing organizations) use the information on patient treatment for those who provided the information; and cases where insurers as managing organizations use the information for health guidance of the insured who provided the information. <br> -"Secondary uses" of the sensitive medical records accumulated will be prohibited for the time being. When necessary system revisions are conducted, |

| | | however, based on the Guideline for Provision to the Third Parties established at the Expert Council meeting on Provision of Medical Insurance Claim Data in March 2011, secondary use of the medical records handled in the "My Hospital Everywhere" concept will be considered in view of public benefits, by referring to the applicable above rules and systems. |
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(5) **Digitization measures for medical and health-related information**

The information to be provided in the "My Hospital Everywhere" concept should be usable by individuals for accumulation of any records derived from any medical institutions operating in Japan under the "My Hospital Everywhere" concept. For this reason, as the "My Hospital Everywhere" concept is realized, it will be necessary to establish a standard format for individual information provision.

Key points to be noted when considering the standard format for individual information provision will be as follows:

(a) As for the system development for individual information provision, using existing data formats for reference must be considered in order to ease the burden on the institution providing the information such as making possible to provide information by improving upon the existing system.

(b) In order to make data creation by the provider and data accumulation by individuals easy and inexpensive, data compatibility should be insured by making conversion to general purpose format possible.

(c) If items on the records were different among institutions, this would make it difficult for individuals to manage the data. In order to avoid this situation, the items on the medical records should be standardized. At the same time, the coding systems to be used for description of items should be made clear.

(d) In order to realize (a) through (c), measures for coping with possible future version upgrades of the standard data format should be considered, such as enforcing version management.


**(6) Forms of data provision from medical institutions to individuals**

As mentioned in (5), the provision of data from the medical institutions to individuals in line with the "My Hospital Everywhere" concept should be conducted using a standard format for provision of data to individuals. This does not mean that the forms of provision of data to individuals should be limited to one.

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In view of present and future proliferation, it would be better to prepare several options, rather than limiting it to one. In other words, medical institutions and the like that provide data are advised to select one or more provision formats, based on their own evaluations.

Considering the above as well as introduction costs, data amount, ease of introduction of the users, handling of information when delivering and receiving data, and feasible timing of introduction from the media that are currently usable, for the time being, options for the provision formats would be: two-dimensional barcodes, mobile phone with the IC cards, IC cards and the Internet. Because of eavesdropping, falsification, spoofing and other forms of fraud, when providing data on the Internet, it will be necessary to examine safe and secure methods for providing information.

With future technological progress in mind, we should consider the possibility of even more than four options.

**(7) Possible future progress**

By having the medical institutions and the like that are collaborating with the "My Hospital Everywhere" concept in providing information to individuals who desire it in the early stages and by increasing the number of users, and expanding the number of medical institutions and so on involved, the "My Hospital Everywhere" concept is expected to make progress.

With the active use of the "My Hospital Everywhere" concept, even in regions where networks of community-collaborated medical services are not well developed, a smooth medical collaboration can be expected through information exchange based on information which an individual holds.

Concurrently, even in communities where information collaboration via regional medical institution networks are available, by utilizing accumulated information by individuals, more detailed medical treatment and care services can be expected. For example, in coordinating medical treatment at home and care services, it is possible to collect diverse information at patients' home in the process of providing medical and care services. As a means of improving the quality of medical treatment at home and care services, the "My Hospital Everywhere" concept and like approaches are considered effective.

Likewise, in cases where the insurers become the managing organizations of the "My Hospital Everywhere" concept, more active health care guidance for the insured and their dependents may be realized.

Furthermore, in the Seamless Community-Collaborated Medical Services

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discussed below, the concept of Regional Council related to collaboration of medical information is proposed. If this Regional Council provides the "My Hospital Everywhere" concept services, there is a possibility of realizing provisions of comprehensive medical treatment and nursing care which utilizes IT, including at-home medical and care services, and disease prevention and management. While aiming at such an ideal of creating an environment of efficient and high quality medical treatment by collaboration among medical practitioners and patients, it is hoped that both the "My Hospital Everywhere" concept and the Seamless Community-Collaborated Medical Services will make cohesive progress.

As has already been mentioned, in the "My Hospital Everywhere" concept, the collaborating medical institutions and so on would provide medical records to individuals who desire the service. In order to propagate the "My Hospital Everywhere" concept, efforts and attempts to promote participation by medical institutions and individuals is important. Therefore, the increase in number of medical institutions providing information is critical. To that end, as has been indicated in the Basic concept, it is important that patient satisfaction be improved after provision of the medical information, which would lead to a further increase in number of patients desiring provision of information from medical institutions. According to a survey conducted by the Cabinet Secretariat, [2] much "anxiety concerning security" has been expressed concerning services in which individuals can electronically record, view, manage, and utilize medical treatment and health care information. In order to dissipate such anxiety, it would be useful to provide appropriate information and promote deeper understanding among patients and the like.

**(8) Future actions**
**(a) Medical treatment and health-related information handled in the "My Hospital Everywhere" concept**

Relevant governmental agencies along with the Japan Pharmacist Association and other related organizations will be examining concrete information that will be included in the electronic Drug Notebook/Card. The electronic Drug Notebook/Card will begin to be provided in FY 2013.

At the same time, the relevant government agencies will begin to provide individual participation-type disease management services, for example, a digitized version of the Diabetes Clinical Path Notebook, starting in FY 2014 or later. They will

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[2] Survey on Medical and health-related information Service (Conducted by the IT Policy Office of the Cabinet Secretariat in March 2011)

be examining in concrete terms information to be included in the relevant services, such as test data, health checkup and examination data, and health-related data, while obtaining collaboration from related organizations such as Japan Diabetes Society.

Furthermore, as for the Patient's Discharge Summary and Image-reading Data Report, which will include the physician's observation and remarks, in view of the burden on the physician and requests from the patient, the relevant government agencies will examine the ranges of the items provided to individuals. Simultaneously, by utilizing the Detailed Receipt for Medical Charges, which is available at the time of discharge from the hospital, information on medical treatment processes during hospitalization can be obtained. Consequently, in the assessment of the Patient's Discharge Summary, Detailed Receipt for Medical Charges will be considered.

**(b) Digitizing measures for medical treatment and health-related information**

Based on the points to be noted in (5) (a) through (d), the relevant government agencies will create a standard format for providing individuals with the electronic Drug Notebook/Cards in FY 2011, at the same time obtaining cooperation from related organizations.

Toward the start of the service, the Ministry of Health, Labor and Welfare will notify the medical institutions and the like and relevant care-giving organizations all over Japan about the standard format for provisions for individuals for the electronic Drug Notebook/Cards in FY 2011.

Based on patient needs, concerning the individual participation–type disease management service to be provided from FY2014 (considered in above (8) (a)), the relevant government agencies will aim at creating a standard format for provisions to individuals, while obtaining cooperation from related organizations, in or after FY 2011, and the format will be notified to medical institutions and the like all over Japan by FY 2013. This will be done while continuing to examine the points to be noted on the reliability of the data input and points to be noted as physicians utilize the relevant data. Furthermore, as for the Patient's Discharge Summary, on which conclusions will be reached as to the scope of information to be provided to individuals, and on the data related to individual participation-type disease management services which will be provided in FY 2015 or afterwards, the relevant government agencies will aim at creating a standard format for provision to individuals, with FY 2013 as the goal year.

**(c) Major rules to be adhered to by the managing organizations**

In order for individuals to be able to transfer medical treatment and health-related information among the managing organizations of the "My Hospital Everywhere" concept, the managing organizations must use a standard format. The rules

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governing this matter shall be established during FY 2011 and FY 2012 by the Ministries and Agencies governing the managing organizations of the "My Hospital Everywhere" concept.

At the same time, the Ministries and Agencies governing the managing organizations of the "My Hospital Everywhere" concept shall examine revisions on the guidelines concerning safety and management of individual information under the Concept and shall reach their conclusions during FY 2011 and FY 2012. Simultaneously, in order to secure continuity in individual information, they shall develop and improve upon the continuation plan.

In March 2011, the Expert Council on Provisions of Medical Insurance Claim Data established the Guideline for Provisions of Medical Insurance Claim Data to the Third Parties. The Ministries and Agencies governing the managing organizations of the "My Hospital Everywhere" concept will examine the secondary use of the medical information handled in the concept and consider the public benefit aspects by referring to the relevant rules and laws, after completions of their necessary revisions. The examination results shall be reported at the working group meeting established by the Task Force.

The appropriate Ministries and Agencies, which normally examine the relationship between the managing organizations and medical institutions, shall continue to monitor the content of these undertakings, under laws related to the regulation of managing organizations and medical institutions.

**(d) Provision formats of the information provided from the medical institution and the like to individuals**

The Ministry of Internal Affairs and Communications shall commence the examination of efficient and secure online information distribution measures beginning in FY 2011.

## 2. Realization of Seamless Community-Collaborated Medical Services [3]

### (1) Basic concept

Implementing Seamless Community-Collaborated Medical Services means realization of the seamless medical treatment and care information collaboration system which goes beyond the borders among medical institutions, geographical borders, such as cities, towns, villages and secondary medical areas and occupational borders, such as those between medical and care services. Through realization of the services, an improvement of quality in the medical and care services within local communities will be achieved.

In order to realize Seamless Community-Collaborated Medical Services, it will be important to establish and build the community-collaborated medical network with the five prerequisites noted below for the "Community-Collaborated Medical Services with Active Utilization of IT by the Fund for Revitalization of Community Medical Services": (Proposal by the Medical Treatment Evaluation Committee of the IT Strategy Headquarters, January 2010)

(a) Building human networks

(b) Planning for introduction of systems in line with the objectives of smooth coordination in the local medical system and alleviation of burdens for those who work in medical systems

(c) Network systems for information collaboration which can be operated in a sustainable manner

(d) Internet connections that are inexpensive and expandable

(e) Functional development and improvement of information exchange with external systems and adoption of standards for medical treatment information

In the current version of the Strategy, activities utilizing the community-collaborated medical networks based on the above noted points, collaboration of information between at-home medical and care services and disease management through information collaboration will be pursued.

In the conventional examples of IT-based community-collaborated medical networks, many networks stopped operating because of inability to come up with operational expenses. These include cases that were started as model projects by the national government. Furthermore, even among those cases that are continuing to

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[3] Contains partial endeavors for the promotion of "Advancing At-home Medical, Care, Watching and Other Services for the Aged"

operate, many are only tapping into sharing of medical treatment information as their sole advantage. Thus, the advantage of sharing medical treatment information among the communities is not necessarily clear.

In order to come up with operational expenses, which are to maintain the sustainability of IT-based community-collaborated medical networks, it will be necessary to quantify the effects of expenses with the total system operation. Going a step further in that regard, it would be important to examine the costs of the systems introduced on the basis of certain quantified effects on expenses. Previously, when the Medical Treatment Evaluation Committee compiled a report on the "Community-Collaborated Medical Services with Active Utilization of IT by the Fund for Revitalization of Community Medical Services," we stressed the importance of cost reduction and the expandability of the system. In the current Strategy, what is indicated is the importance of the promotion of information collaboration with the expected possibilities of quantification of the system introduction effects and information collaboration capable of providing incentives based on the introduction effects is considered.

In concrete terms, from the point of view of containing the deterioration of lifestyle-related diseases (which is hereunder called disease management), it is important to actively utilize IT to conduct monitoring of examination data with collaboration among hospitals and clinics. Naturally, establishment of the object of containing deterioration of diseases has aspects which are not only the quantification of the various advantages of promoting IT system introduction but also solving urgent tasks in community-collaborated medical services.

At the same time, along with the progression of the aging society, the importance of coordination in community-collaborated medical-care services has increased. Since a variety of specialists are involved in community-collaborated medical-care service, it would be possible to realize high quality medical treatment and nursing care through a good understanding of those who have received medical treatment and care by examining shared information within the IT systems. Medical treatment and care information in the IT format has not been accumulating for a long period, but the information is expected to make a great contribution in terms of improvements in medical treatment and care services in the future. Currently, discussions are taking place on the collaboration between medical treatment and nursing care and simultaneous revision on the medical and nursing care fee systems in FY 2012. Therefore, it would be important to examine the efforts to actively utilize IT in the medical treatment and nursing care fields without lagging behind the above discussions.

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To reiterate, an important task in implementing Seamless Community-Collaborated Medical Services with IT utilization is to sustain the system in a stable manner. In order to achieve this task, the major tasks in economic terms are: reduction in costs for maintenance and operation of the system and establishment of a mechanism for recovering expenses. A characteristic of the IT systems that would work to advantage is that the cost increase is minimal since many users share one system. Therefore, one solution would be to share the network system among as many users as possible. So it would be effective to build and expand the network beyond secondary medical areas in parallel with building the secondary medical areas networks while securing the scalability.

**(2) Diseases to be covered in the community-collaborated network based on secondary medical areas**

As far as containment of diseases to be covered in the community-collaborated network is concerned, while selecting important diseases in view of special conditions within the community, it is important for the collaborating hospitals and clinics within the secondary medical areas to monitor stringently selected test items for each disease, through which efficiency is maintained. To this end, by establishing a selection standard for diseases to be covered, it will be necessary to aim at better results among model projects.

The three selection criteria for the subjects of the model projects are listed below. The overall selection will be made by referencing these three criteria. When selecting multiple numbers of diseases, it would be effective to select diseases with different characteristics.

<Selection Criteria>
(a) Improvement on QOL's among patients can be expected.
(b) An effect on appropriateness of medical expenditure through preventing the disease from becoming more severe can be expected.
(c) Utilization effects of the information and communication technology can be expected.

Below are some concrete examples of cases in the application of the selection criteria:
(a) Improvement on QOL's among patients can be expected.
・Cases of diseases which involve rapid deterioration in activities of daily living (ADL) and cognitive capabilities (Activities of daily living become severely

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limiting and much time is needed in treatments.)

　　・A long treatment period is needed. (Example: As a disease becomes chronic, treatment under nursing care is required.)

(b) A remarkable effect on appropriateness of medical expenditure through preventing the disease from becoming more severe can be expected. There are a large number of patients.

　　・　There is an increasing trend of numbers of patients.

　　・　The expense needed for treatment is large.

　　・　The proliferation to other areas can be expected.

(c) Utilization effects of the information and communication technology can be expected.

　　・　There exists examination data effective for prevention and containment of disease.

　　・　Data processing and management utilizing IT is effective for treatment of the disease. This means that an accumulation of a large amount of data is needed and standardization of treatment is possible by accumulating medical treatment data and so forth.

　　・It is easy to introduce the IT-based system as there has been actual collaboration in the paper-based system.

　　・　The information to be shared is varied as there are collaborations among many facilities and occupations.

　　・　The burdens on those who engage in medical treatments can be alleviated.

### (3) Incentives for containment of deterioration of diseases by IT utilization

As has been indicated with (1) Basic concept, in order to sustain the information collaboration system via active utilization of IT, a prerequisite is to keep securing its operation costs.

From the point of view of promoting introduction and utilization of community-collaboration of medical treatment utilizing IT, subjects and methods of providing incentives will be itemized. This will be useful especially for future examination of incentives for supporting the operation of the system.

### (a) Subjects of provision of incentives

Subjects, all of which are provided with incentives can be categorized into the following three categories: (i) building the information coordination system itself; (ii) medical treatment activity using the IT system (such as provision of medical treatment information); and (iii) medical treatment outcome brought about by the medical

treatment activities.

The incentives for information-collaboration system should not be limited to the IT system itself. Making this inclusive of the personnel system, such as the Call Center, which alleviate the burden in the forefront of the system, is considered to be effective for an examination of the incentives.

In order to provide incentives for medical treatment outcome (i.e. improvement of patient QOL), an objective indicator for measuring medical treatment outcome will be needed. At the same time, it will be necessary to collect quantitative data in order to determine the applicable index. Thus, it would be necessary to collect evidence in model projects and the like. There would be cases, of course, where clarification of effects might be difficult. In those cases, it would be important to examine provision of incentives on efforts for containment of deterioration of diseases themselves.

**(b) Provision method of incentives**

As provision methods of incentives toward realizing containment of the deterioration of disease utilizing IT, there are basically two types: nationally uniform medical fee systems by the national government and subsidies from local governments provided in light of conditions in local areas. From the point of view of social welfare, insurers can be added as providers of incentives in addition to national and local governments.

As for medical fee systems for IT introduction such as electronic medical record system, the Japan Hospital Organization Council presented their requests. At the Task Force meeting, other opinions were stated. There are also opinions that state medical fee systems would be the candidate for incentives from the point of view of promoting community coordination in medical treatments. Since there is a limit to the sum of medical fee, when examining provision of the new medical fee, it would be necessary to clarify the effects of provision of medical fee system and to specify the replacement provision of the existing medical fee system.

Toward promotion of the spreading of the medical IT system, candidates for support measures, other than medical fee system, are taxation and government subsidies. As for taxation and subsidies, it should not be considered that the medical treatment outcome is necessarily the policy objective. For example, there is also a viewpoint for policy objectives in development and improvement of medical treatment provision systems under which residents of local communities can make a safe living. Therefore, based on these priorities when compared with other policy measures, it would be effective to examine appropriate systems.

Currently, from the point of view of stabilizing the financial condition of the

National Health Insurance, implementing measures for containing deterioration of disease is advantageous for local governments. In other words, it is plausible for local governments to introduce a subsidy system in view of these advantages. It would be desirable, however, that the subsidy system supports the sustainable operation of the medical IT systems. From the point of view of the scale of advantages to be received, ease of creation of the new systems, and the ease of securing the budgets, it would be efficient for the prefectural governments, municipalities, operating the National Health Insurance to examine the introduction of a subsidy system.

**(4)Information effective for sharing at-home medical and care services**

At-home medical and care services have had different insurance systems and different occupational characteristics, which have led to certain difficulties in collaboration. It has been pointed out that those who engage in medical treatment and those who engage in care services do not know enough about interchange of information. For this reason, when beginning to examine the active use of IT in collaboration of at-home medical and care services, it is important to identify the most effective information sharing methods.

**(a) Information effective for sharing at-home medical and care services**

Information effective for sharing among at-home medical and care services can be divided into two categories: (i) Information at the initial stage when the at-home medical and care services begin (initial information at the beginning of at-home service) and (ii) information on patient situation and condition changes after commencement of at-home medical and care services (information on patient situation and conditions during at-home medical and care services.)

The initial information at the start of at-home service includes basic information (name and address of the patient) and information on initial condition at the time of hospitalization entrance and discharge from the nursing facility or at the creation of the Care Plan. The initial condition of the patient includes daily living conditions, status information, medical examination and treatment records (including information on physical condition and status), and service provider related information.

Information on patient situation and condition often changes after commencement of at-home medical and care services. In concrete terms, they include conditions of daily living, status information, and medical examination and treatment records.

It so happens that the patient often moves between hospital treatment and at-home medical and care services. By sharing the "the initial information at the start of

at-home service," those who engage in follow-up medical treatment and nursing care would be able to improve upon the quality of the medical treatment and nursing care provided. In order for that to happen, it is effective for the physicians and dentists who are engaged in treatment of the patient prior to discharge and as an outpatient, to provide "medical examination and treatment records," concerning the treatment and care provided. Likewise, nurses, hospital pharmacologists, dental hygienists, physical and occupational therapists and the like would provide "daily living conditions and status information" and "medical examination and treatment records" before discharge. At the same time, it would also be meaningful for the care managers to provide "basic information" and "service provider related information," which are collected when making the Care Plan, and information concerning "medical examination and treatment records," which are collected when making the discharge referral document.

In a like manner, by sharing the "condition and status information during at-home medical and care services," those who engage in medical treatment and nursing care will be able to provide higher quality medical and nursing care.

Toward this end, it is considered useful for physicians and dentists to provide "medical examination and treatment records." Likewise, the visiting nurse will provide "medical examination and treatment records" and "daily living conditions and status information." Dental hygienists will provide "medical examination and treatment records," as well as physical and occupational therapists providing "daily living conditions and status information" and "medical examination and treatment records." It would be considered meaningful for helpers and family members to provide "daily living conditions and status information," concerning the care they provide during physical nursing and household assistance. It would also be considered meaningful for the at-home or visiting pharmacist to provide "daily living conditions and status information," and "medical examination and treatment records," all of which can be provided during pharmaceutical management.

**(b) Points to be noted at the time of sharing information**

In order to overcome problems in smooth information sharing during at-home medical and care services, it would be necessary to simplify input while standardizing the information to be shared as much as possible.

(i)        Standardization of information to be shared

In care services, there are different points of view from a number of different occupations, which create similar yet different indices for evaluating patient behaviors. For this reason, the burden on those who engage in care services become heavier due to the need for conducting duplicate evaluations based on numbers of different yet similar

indices. In view of these conditions, when sharing patient condition information for future use, it would be necessary to reduce as much as possible the amount of information to be collected. With this in mind, it would be important to standardize the information to be shared.

For example, there are activities of daily living-related (ADL-related) information, which involve basic behaviors necessary for conducting daily living such as eating, attending the toilet needs and so on. In ADL evaluation, there are multiple yet different formats and methods, depending on objectives and fields. From the point of view of sharing recognition among those related people, it would be important to evaluate the ADL condition using common standardized evaluation indices. In some cases, specific ADL evaluation indices have already been used. Therefore, when standardizing the indices, assessment should be conducted with ample time allotted for considering objectives and areas within the community. It would be necessary to promote common recognition on ADL evaluation.

(ii)      Simplifying input of shared information

In order to maintain shared information in a sustainable manner, it is important to reduce as much as possible the burden of inputting the information. To this end, it is necessary to develop and improve the environments in which system users can input the information necessary in as accurate and non-time-consuming manner as possible.

As for mechanism of information input by nursing care helpers, for example, selecting appropriate ranges of shared information would be desirable in order to promote sustainable input. At the same time, multiple-choice input and easy-to-input terminals such as smart phones should be considered. It is also desirable to examine input support through call centers. There is a need for sharing unformatted information in addition to multiple choice-type input. In such cases, free formatted input columns should be created and it would be important to introduce flexible case-dependent input methods.


(5) **Community-collaborated network beyond the secondary medical areas (Establishment of Community Councils)**

As has been mentioned in (1) above, with the existing medical information network systems within the secondary medical areas built around the central hospital, there are many tasks for sustainable operation of the network. One is doing away with difficulty in coming up with system maintenance expenses. Currently, the community-collaborated medical network environment is being made more efficient and improved upon. This includes alleviation of the requirements for external storage of

medical records and development and proliferation of IT technology, such as cloud computing technology. It would be important, therefore, to develop and improve the environment where information collaboration can be made as efficiently as possible on the prefectural bases.

From the above, in order to promote the building of community-collaborated networks at the prefectural government level, it would be effective to establish a Community Council that relates to medical information collaboration on the prefectural government level. (Hereinafter referred to as the Community Council.)

### (a) Outline of the activities of the Community Council

It would be important for the Community Council to sustain the information collaboration network within the secondary medical areas under its support so that they could smoothly cope with the expanded range of information collaboration in the future. (Present activities of the Community Council are described in (c) below.)

It would be important, furthermore, to develop and improve the activities of the Community Council, beginning with the ones that can be coped with, such as enhancing the efficiency of the medical treatment collaboration network on the prefectural government levels. (Development and improvement of the activities of the Community Council is described in (d) below.) In order to make better collaboration in the community-collaboration networks within the existing secondary medical treatment areas, it will be necessary to utilize the existing resources effectively.

From the point of view of realization of the Seamless Community-Collaborated Medical Services, however, it will be necessary for the Community Council not only to support collaboration of medical information but also to examine supporting collaboration of information, which is effective when shared by medical treatment and care services, as mentioned in (d), and collaboration including personal health information.

### (b) Constituent members of the Community Council

In the selection of constituent members of the Community Council, it would be helpful to have the Medical Association members on the prefectural government levels to support the building of human networks among community medical institutions. At the same time, in view of coping with the tasks within the community and progression in the aging society (increases in patients with chronic diseases and senior citizens who need care services), it would be desirable to have the constituents come from relevant organizations. For example, it would be effective for the local governments and the National Health Insurance Cooperatives to be involved in promoting safe management of community medical treatment information in disease management and at-home

medical and care services in the local community.

Furthermore, when establishing the Community Council, it will be necessary to align with the medical treatment plans on the prefectural government levels. For this reason, it would be important to maintain close collaboration with the Medical Treatment Councils of the prefectural government.

**(c)  Present Activities of the Community Council**

In order to support activities of information collaboration among various medical institutions on the prefectural government level, it will be necessary for the Community Council to provide support so that development and improvement of the collaboration repository/registry be promoted. The repository/registry would be equipped with the standard interface to smoothly cope with the future expanded range of information collaboration.

When the "standard architecture" described below is determined at the national government level, it is important that the proliferation of the architecture within the community be promoted. It would be necessary, however, to take streamlined measures, which support the actual installation of the interface among the collaboration networks that are already in operation.

When providing supports as mentioned above, the Community Council needs to cope with the following tasks within the community: securing human resources; building human networks with medical institutions and the like within the community; and auditing security of the community information collaboration systems and securing interoperability within the community (i.e. adoption of standard architecture and the like).

**(d) Development and improvement of the activities of the Community Council**

In order to further promote the seamless community-collaborated medical treatment on the prefectural government level, it would be effective for the Community Council to examine the provision of services capable of inter-referencing medical information at each medical institution and the provision of storage service of the information, depending on the case. If and when such services are provided, it would be effective to examine providing support not only on the collaboration of the medical information but also on the collaboration of nursing care information with the core of at-home medical treatment and the collaboration including the health-related information of individuals.

As methods for realizing development and improvement of the above activities, there are two possible approaches: one is to apply services already utilized in medical information collaboration in various communities and another is to build centers in

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collaboration with prefectural governments as the units or in collaboration with nearby prefectural governments. From the points of views of sustainability and the like, it is desirable that a careful examination will be carried out for selection of the most appropriate in relation to actual conditions in the community.

At the same time, when actually conducting the development and improvement on the activities, it would be necessary for the Community Council to create rules for bearing expenses needed for provision of services and rules for protection of personal information in the community.

**(i)      Concerning examination of hub functions of the Community Council**

It would be desirable to examine the above-mentioned hub function in community collaboration in concrete terms. The examination contents would be the following: linking the patient IDs at corroborating medical institutions and issuance and management of IDs; personnel identification and electronic signature function; reference authorization management function and the like. Since there is much burden involved in issuance and management of IDs, and a cautious examination is needed in handling of this matter in concrete terms.

As with the cases in the secondary-medical areas when newly collaborating with a new hospital concerning patient information, the existing patient IDs (registration card number and so on) already in use at both hospitals will be linked and used. The issuance of a unique ID per patient within the prefectural governments will be important from the point of view of efficient coordination. In other words, it is necessary to proceed with considerations so that there is no duplication of IDs within prefectural areas (i.e., provision of the prefectural government number or the secondary-medial area sign to be attached to a certain position of the unique patient ID.) In view of the future use of the common number[4] considered for the future number system concerning social security and tax, it would be necessary to make preparations so that the common number (or the number derived from the common number) can be added.

Also, as a common function, it would be desirable to consider such functions as the reference right setting function in line with the agreement by the patient and single-sign-on function, which is a function for improving on convenience.

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[4]   This number is provided by the system as a basis for confirming that the individual information held by several organizations is of one individual, so that the national government and local governments and so on can more accurately grasp the information on each individual and a Japanese national can utilize the number as an indispensable means for utilizing the services provided by the national government, local governments and so on. In or after the autumn of FY 2011, at an earliest possible date, the bill for the Act on Numbering (tentative naming) and an amendment bill for related laws will be submitted to the Diet. Thereafter, the tentative schedules will be as follows: establishment of third party organization in January 2014: the number distribution to all Japanese nationals in June 2014 (distribution of IC cards to all Japanese nationals are considered); and the use of the number system in tax field and so on begins in January 2015 and the range of usage of the numbers will be expanded step by step thereafter. (As of March 2011.)

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**(ii)     Concerning examination on data storage function at Community Councils**

Concerning the functions to be examined by the Community Councils, in addition to the provision of collaboration hub function mentioned above, possible considerations can be made for the storage service of medical information provider data for various medical institutions. When handling large data, there are risks for occurrences of accidents, such as information leaks, and it is necessary to examine the rules relating to the scope of responsibilities in case of accidents. Also, when providing this service through the usage of conventional services, even in cases of changes on the service providers and the like, users should be able to continue using the accumulated data. This function should be examined prior to service provision and this should be contained in the service contracts.

**(e) Toward the realization of medical information collaboration that goes beyond the prefectural government borders**

The activities of Community Councils are aimed at efficient medical information collaboration in its jurisdiction. It would be desirable, however, Community Councils to contribute to seamless collaboration of medical information beyond the borders of prefectural governments.

In order to realize the collaboration of medical information beyond the borders of prefectural governments, it would be effective to conduct the system design of Community Councils in view of collaboration among networks of each Community Council in the future. When examining the system design, the examination on the common rules to which the Community Councils should adhere to and on the standard architecture on the national level should be included and, at the same time, these should be indicated to the communities.

When examining the standard architecture, attention should be paid so that the architecture would not hinder future expansion on it. It would be necessary to consider uses, for example, of such standards as that of the Ministry of Health, Labor, and Welfare, standards such as ID-WSF or those technology that have already been used in community medical service collaboration.

In parallel with promotion of the local information collaboration, in order to make the future collaboration with other prefectural Community Councils possible, it would be effective for a Community Council to establish an independent information collaboration repository/registry in addition to the one with the prefectural collaboration. At the same time, in addition to examination on the priority of information when collaborating with other Community Councils, it would also be necessary to have in mind the active use of architectures. When collaborating beyond the prefectural border,

it is conceivable that the above mentioned patient ID be numbered so that there would be no duplication in any part of the architecture.

**(f)  Concerning the security measures worked out by the Community Council**

When collaboration takes place among medical institutions within a community, the Community Council needs to provide necessary information and the like on security of individual information to medical institutions and so on, so that ample considerations are made for security measures for protection of individual information. In the current status, major security measures to be placed importance are the following: personnel authorization for prevention of spoofing on the internet, electronic signature for prevention of fraud, encryption for prevention of eavesdropping, and the saving of audit trails for securing traceability after information leak accidents, and the like.

From the point of view of sustainable and stable operation of community medical care collaboration utilizing IT, it would be important to establish security measures with high cost-to-effect ratio. For example, it would be important not to hang on to high cost technical measures and, by combining measures on operation, examination should be made so that to establish well-thought out measures within appropriate range of expenses. This means that it is necessary to examine needed functions as security measures, including the above point of view, (i.e., uses of audit trails, user authorization, electronic signature and the like.) At a Task Force meeting, it was pointed out that the use of the Healthcare Public Key Infrastructure (HPKI) for user authorization and electronic signature would be effective. It would be desirable, therefore, development and improvement on the system should be made and the mechanism of personal authorization, such as the HPKI, should be provided at low cost to those who engage in medical treatment services.


**(6)  Progress condition concerning promotion of telemedicine**

To date, it has been pointed out that the requirements under which telemedicine would be permitted should be made clear from time to time. In order to respond to these, in March 2011, the Ministry of Health, Labor and Welfare revised the notice, "On Medical Treatment using Communication and Information Equipment, or, so-called Telemedicine." (Notice issued on December 24, 1997, Health Policy Issued No. 1075 by the Director, Health Policy Bureau, Ministry of Health, Labor and Welfare) The Ministry clearly indicated that the items for which telemedicine should be authorized are not to be limited to those listed in the Separate Table. At the same time, based on the annual report of the Ministry of Health, Labor and Welfare Science Research, the Ministry added two types of diseases as examples of uses of telemedicine (patient of

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at-home treatment for cerebrovascular disease and at-home cancer patient).

The Ministry of Health, Labor and Welfare is continuing to conduct the studies on telemedicine through the subsidy on Welfare and Labor Research Fund since last fiscal year, and collects evidences on the following: grasp on quantitative needs of those who engage in medical treatment and patients; safety of telemedicine through retrospective research; and safety and effectiveness of telemedicine through forward-looking research. As implementation, continuation, enlargement, and collection of evidences on the telemedicine verification enterprise, based on the interim report of the "Discussion Meeting concerning Promotion Measures for Telemedicine (Discussion meeting of the Minister of Internal Affairs and Communications and Minister of Health, Labor and Welfare), the model project of the Ministry of Internal Affairs and Communications compiled certain results (data and evidences) concerning the Telemedicine Model Projects in the last fiscal year.

As for studies on digital issuance of the prescription, partial verifications and examinations are made within the range of the current legal systems and regulations in the verification project for the Building of Bases for Positive Uses of Health and Medical Information (implemented through collaboration among Ministry of Internal Affairs and Communications, Ministry of Health, Labor and Welfare and Ministry of Economy, Trade and Industry).

**(7)  Progress condition of promotion on the autopsy imaging (Ai)**

As for promotion on the autopsy imaging (Ai), the Ministry of Health, Labor and Welfare established the "Study Group on Active Use of the Autopsy Imaging (Ai) for Clarification of Cause of Death" in June 2010. The study group will further examine and sort out on the current status and scientific findings on the autopsy imaging (Ai) and on future actions and measures concerning the autopsy imaging (Ai) and the like. The support for development and improvement on technologies for clarifying cause of death is provided. In the future, the study group will compile reports on the usefulness of the autopsy imaging (Ai) and development and improvement on its implementation system.

As for usefulness of the autopsy imaging, the following is pointed out: contribution to judgments on whether autopsy is needed or not and to improvements of the accuracy on determining the cause of death; and especially concerning small children, the autopsy imaging will contribute not only to finding out about cause of death but also to prevention of slip by cases of child abuse and so on.

As for development and improvement on the implementation system of the autopsy imaging, it would be necessary to widely appeal to those who work in medical

treatment institutions and the general public including patients and family and to promote national understanding. Also, in the autopsy imaging, since special knowledge and capturing and interpretation technology and techniques are required, there is a need for bringing up specialists in the area of the autopsy imaging.

**(8) Future actions**

**(a) Subject diseases to be taken up by the community-collaborated networks with the bases in the secondary medical areas**

The Ministry of Economy, Trade and Industry, based on the selection standard of diseases in (2) (a), would promote model projects. When doing this, the Ministry would obtain collaboration from the Ministry of Health, Labor, and Welfare and the Ministry of Internal Affairs and Communications and the related academic associations such as the Diabetes Association. Also, when conducting model projects, in accordance with the subject diseases, collaboration with activities of the individual participation-type disease management services in the My Hospital Everywhere concept will be examined.

**(b) Information that is effective for sharing in at-home medical and care services**

By referencing information that are effective when shared and the points to be noted when sharing information, the related Ministries and Agencies will implement the model plans for building at-home medical and care service networks in the future. In doing that, the Ministry of Health, Labor, and Welfare will provide the related Ministries and Agencies with information as necessary on the examination condition in the Central Social Insurance Medical Treatment Council and the like toward the revision of the medical and care fee systems for FY 2012. At the same time, through the implementation of the model plans for the building of at-home medical and care service networks, the related Ministries and Agencies will examine the standardization of information collaboration on the at-home medical and care service.

**(c) Incentives on containment of deterioration of diseases utilizing IT**

The related Ministries and Agencies will examine the ways of providing incentives for containment of deterioration of diseases utilizing IT and reach conclusions of the examinations in FY 2011.

**(d) Community-collaboration network beyond the secondary medical areas (Establishment of Community Council)**

The relevant Ministries and Agencies will install necessary measures so that as many prefectural governments will establish the "Community Councils that engage in medical information collaboration" and the medical information collaboration under their auspices would be promoted. Furthermore, the Ministries and Agencies will

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examine development and improvement of the activity contents of the Community Council and, based on this examination, they will examine providing supports for activities for sharing patient information among prefectural governments. Moreover, as for the standard architecture and the like that would make information collaboration possible among the prefectural governments, a Working Group will be established under the Task Force early in FY 2011, and the Working Group will examine the standards and cases of active use of existing activities and obtain conclusions at an early stage.

**(e) Progress condition concerning promotion of telemedicine**

The relevant Ministries and Agencies will continue on the implementation on the telemedicine verification projects. They will also collect evidence for realizing calculations on the medical treatment compensation in telemedicine and will examine promotion measures for telemedicine at discussion meetings and the like.

Within FY 2011, the Ministry of Health, Labor, and Welfare will clarify upon the concept on the issuance of prescription when conducting telemedicine.

The relevant Ministries and Agencies will, within FY 2011, collect verification data and the like on tele-interview for health guidance on the Specific Health Checkups. Then, they will examine on the revision of the system and will obtain conclusion.

**(f) Progress condition concerning promotion of autopsy imaging (Ai)**

Based on the proposal by the "Study Group on the Active Use of the Autopsy Imaging for Clarification of the Cause of Death," the Ministry of Health, Labor, and Welfare will make efforts on proliferation of autopsy imaging (Ai) through providing supports for the training for improving the techniques for reading the autopsy imaging and the like that relate to the activities of the autopsy imaging (Ai) utilizing the information and communication technology (IT).

## 3. Making Medical Treatment More Efficient by Active Use of Medical Insurance Claim Data

**(1) Basic concept**

Through the past activities of digitizing medical insurance claim data, electronic data on medical insurance claims has accumulated at the Ministry of Health, Labor, and Welfare, individual medical institutions, and insurers. Meanwhile there are requests for more active uses of the data in order to provide more effective medical treatment.

In response to these requests, the Ministry of Health, Labor, and Welfare has established within the Ministry the Expert Council, which will grapple with the problem of producing guidelines for the provision of medical insurance claim data to third parties.

In addition to producing the guidelines, it is important for the local governments, medical institutions and insurers to indicate the directions in which to more actively utilize their own medical insurance claim data. This will further promote active use of medical insurance claim data as well as similar data and promote improvements in more efficient and higher quality medical treatment.

**(2) Making guidelines for provision of medical insurance claim data to third parties**

The Medical Insurance Claim and Specific Health Checkups Database stores medical insurance claim data and specific medical examination data collected by the Ministry of Health, Labor, and Welfare based on the Act on Assurance of Medical Care for Elderly People.

The information in the Medical Insurance Claim Data and Specific Health Checkups Database was originally intended for plan making surveys and analyses for appropriate medical expenses based on the Act on Assurance of Medical Care for Elderly People. To this end, the Guidelines for Provision of Medical Insurance Claim Data for the Third Parties is intended to acknowledge the use of data in the Database for promotion of policy measures based on precise evidence, for improvement of medical treatment services and for use in analysis and research. The Expert Council will conduct evaluations intended for making progress in academic research.

An examination of the Guideline started in October 2010. The Guideline was established on March 31, 2011, after inclusion of basic principles of provision of medical insurance claim data, the procedure for provision, the range of subjects for provision, and evaluation standards for provision.

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**(3) Promotion of active uses of medical insurance claim data at local governments, medical institutions, and insurers**

      The local governments, medical institutions, and insurers all have their own medical insurance claim data and it would be important for them to actively use the data for actualization of more efficient uses of medical treatment and improvement in the quality of medical treatment

(a)  **Active utilization of medical insurance claim data by the local governments**

      It would be effective for local governments to actively utilize the medical insurance claim data and the like for public purposes such as investigation on medical resources and so forth within their jurisdiction. On occasions when appropriate anonymization cannot be maintained, it will be necessary to acquire patient agreements. At the same time, it would be effective for the local governments to develop and improve fundamental information for collaboration in medical treatment and care services, such as information on rehabilitation hospitals which can accept patients who are discharged from the acute-care hospitals and on location information of nursing care collaboration facilities and the like.

      With a prerequisite of ample considerations be given to handling of personal information, for instance, visualization by linking local governments' medical insurance claim data with map information such as geographic information system (GIS) enables us to have a grasp on how many hospitalized patients from each municipality are hospitalized at which medical area hospitals. This in turn will make it possible for us to analyze demand-supply conditions of medical treatments at the local level. At the same time, it would be possible to determine the distribution and appropriate quantity of medical treatment resources for provision of efficient medical treatment. For example, these will be helpful for resetting medical treatment areas and positioning standard number of beds associated with it, and building an effective collaboration system for medical treatment and nursing care in the local communities.

      Thus, it would be important for the prefectural governments to actively utilize the above analysis and create medical treatment plans based on quantitative data. Securing an appropriate provision system of medical treatment within their own medical treatment areas will foster efficient medical treatment services.

**(b) Active utilization of medical insurance claim data by medical institutions**

      It is important for the medical institutions to use a process benchmark to compare medical treatments among themselves in order to achieve more efficient treatments. This would lead to more efficient management as a whole.

      Furthermore, it would be effective for the medical institutions themselves to

firmly grasp their own positions concerning conditions of provision of medical treatment. This will lead to more efficient medical treatment services and improvement on management conditions.

In order to help these activities, it would be effective for the Ministry of Health, Labor and Welfare and other Ministries and Agencies to provide average national data and additional data on medical institutions and share the analyses with researchers.

### (c) Active utilization of medical insurance claim data by insurers

The financial condition among insurers in Japan is becoming increasingly critical and there is a need for measures to cope with this situation. In order to conduct health guidance, insurers have been engaged in health guidance services from a perspective of preventive medicine for both the insured and their dependents. In order to increase efficiency, it would be effective to more actively utilize the medical insurance claim data and the like which they possess.

In concrete terms, the Act on Assurance of Medical Care for Elderly People requires that Specific Health Checkups and Specific Health Guidance be conducted and that insurers conduct their own health examinations as healthcare services. From the perspective of appropriate healthcare services, it is important to have an understanding of diseases among the insured and medical utilization conditions of treatment services and so on.

For example, through analysis of medical insurance claim data, a clear view of "diseases on which intervention can be considered" is made possible as well as other items such as: preventive medicine, early detection, early treatment, etc. By conducting effective countermeasures with core diseases on which intervention is possible, it would be feasible to carry out healthcare services which would contribute to reduction of insurance payment expenses.

Some of the insurers have introduced groupware, which can share health examination and lifestyle data on the insured and their dependents on the internet among the insured and their dependents, insurers, and collaborating medical institutions and so forth, after conducting appropriate data management. In terms of health education of insured and their dependents, and more efficient conducting of healthcare guidance, etc., it would be important to provide health examination data and the like to the insured and their dependents.

At the same time, as concerns on diabetes and similar diseases, for which there is a possibility of prevention and early treatment, it would be feasible to actively intervene to prevent the diseases becoming more serious and even prevent these diseases among insured and their dependents, all through collaborating with medical

institutions and using the data and analysis results held by the insurers. Furthermore, with insurers acting as the managing organizations of the "My Hospital Everywhere" concept, they can monitor the insured and their dependents, making it possible to actively intervene in areas not limited to healthcare guidance alone.

(4) **Future actions**

(a) **Making guidelines for the provision of medical insurance claim data to third parties**

The Ministry of Health, Labor and Welfare will assess matters in a trial period during FY 2011 and FY 2012 based on the Guidelines established at the Expert Council on Provision of the Medical Insurance Claim Data in March 2011.

After considering actual achievements and the like during the trial period, the Ministry will examine developing and improving the fee schedule, penalties, and the like concerning the framework on data provision.

(b) **Promotion of active utilization of the medical insurance claim data at local governments, medical institutions, and insurers**

The Cabinet Secretariat and the relevant Ministries and Agencies will conduct research and examination for further solidifying the areas in which the local governments, medical institutions, and insurers can actively utilize the medical insurance claim data and for realizing active uses by third parties, as indicated by the Task Force.

At the same time, the Ministry of Health, Labor and Welfare will promote activities on improvements in quality of medical services and healthcare services. They will grapple with making management by medical institutions and insurers more efficient as well as examine provisions for average national data and the like. The provision of data above is for the medical institutions to understand their own positions concerning provision of medical treatment and for the insurers to have a better grasp of national positioning of medical expenses, etc. for their own insured.

**4. Promotion of Safety Measures on Pharmaceuticals and the like through Active Utilization of the Medical Information Databases**

**(1) Basic concept**

      In addition to the above activities for active utilizations of medical insurance claim data, from the perspective of safety promotion measures for pharmaceuticals and the like, it is important to promote active use of electronic medical records, etc. through building and operating a medical information database. For this purpose, the development and improvement projects for a medical information database will be promoted.

**(2) The outline of the development and improvement enterprises for a medical information database**

      The development and improvement enterprise for medical information database will build a database for collecting data on 10 million people at five locations, for example, the university hospitals all over Japan. At the same time, in the Enterprise, an information analysis system will be built at the Pharmaceutical and Medical Devices Agency (PMDA), an Independent Administrative Corporation for promoting safety measures for pharmaceuticals and the like.

      The database, at five locations in Japan, will store the existing electronic data after insuring that the data is anonymous. The data will include such things as electronic medical records, ordering prescription data, medical examination data, etc.

**(3) Future actions**

      Concerning the development and improvement enterprises for the medical information database, the Ministry of Health, Labor, and Welfare will create a database for one facility out of five during FY 2011. The database will be extended to the rest of four facilities during FY 2012 and FY 2013. By FY 2015, the Ministry will have built a large scale network and vast accumulated data.

      The Discussion Meeting on Active Utilization of Medical Database in the Electronic Medical Information Database (Japan's Sentinel Project, August 2010) produced recommendations on safety measures for pharmaceuticals through utilization of electronic medical information databases. Based on these discussions, the Ministry of Health, Labor, and Welfare will implement the following, during and after FY 2011: development and improvement of rules concerning handling of information and development and improvement of new infrastructure such as databases, manpower, etc.

      Furthermore, the Ministry of Health, Labor, and Welfare will be examining the

database architecture and common formats for future collaboration with medical institutions and the like in mind. At the time of examination of the above mentioned architecture and format, the Ministry will be sharing information with the Cabinet Secretariat on the progress of implementation of such activities as reporting the examination conditions and results to working groups established under the Task Force.

**Conclusions**

The Task Force on IT Strategy in the Healthcare Field was established in September 2010. After holding 10 meetings, the Task force decided to produce this report. Henceforth, it will be important to steadily implement future actions and to steadily achieve results on the matters that this Report has taken up. For this purpose, at the time of the revision of the Roadmaps for the IT Strategy planned in June this year, it would be important to make revisions based on the Future actions in this Report, so that it will be possible to check on the progress of the Actions.

The new IT Strategy last year decided to place importance on "reliable implementation of the Strategy." When implementing the policies, therefore, what we had in mind was to start with what can be realized. This means to start with spontaneous actions of those who are willing to actively grapple with the policies. Through such spontaneous actions, achieving planned goals and fostering success cases, they will expand to general activities all over Japan. It would be important to continue the efforts so that the bases for actively utilizing medical information in our country will be realized.

If the "Community Council for Promotion of Collaboration of Medical Information," which was examined by the Task Force, achieves the expected effects, it would play an important role in building a base for active utilization of medical information in Japan. It is desirable that the same type of activities be conducted in as many prefectural areas as possible. It would be meaningful, therefore, to disseminate the contents of the Report of the Task Force on a broad scale. Furthermore, it is important to convey the examination contents discussed at the Task Force concerning Community Council in a full and satisfactory manner to prefectural governments where possible planning is taking place for building community-collaborated networks utilizing IT going beyond the secondary areas.

Toward promoting IT Strategy in the healthcare field for the next fiscal year and afterwards, there are some matters which were pointed out as important tasks at the Task Force meeting, namely: making rules for "secondary use of medical information," for epidemiological uses of the data outside the scope of the medical insurance claim data and Specific Health Checkups. Examination of implementation of a "standard architecture to be referenced to when Community Councils will build information collaboration system" was set forth. The Task Force will be examining these by establishing Task Force Work Groups and, in addition, will be confirming all progress on any future actions,

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**Reference 1:**

**Examination conditions outside of Task Force relating to matters involving the examination contents of the Task Force**

| Name of Meetings | Secretariat | Outline |
|---|---|---|
| Study Team on Practices Concerning the Number System Relating to Social Security and Taxes | Cabinet Secretariat | Concerning the examination items on social security reforms by the government and the ruling parties, the Study Group examines the practices for introducing the number system relating to social security and taxes. In the Interim Report (December 3, 2010), it was concluded that the system will begin with "taxes and social security areas" while checking "wide administrative areas" as its ranges. As for the social security area, utilization in the community-collaborated medical services is touched upon, having as subjects the actual material services. |
| Working Groups on Protection of Personal Information and Information Collaboration Key Technology | Cabinet Secretariat | These are working groups of specialists on "Protection of Personal Information" and "Information Collaboration Key Technology " They will proceed with examinations of office procedures concerning the common number system and Citizen ID system. Each will examine the following: (1) Protection of Personal Information WG Items relating to mechanisms of protection of personal information in the Number System Relating to Social Security and Taxes and Citizen ID system (with the exception of items relating to technology). (2) Information Collaboration Key Technology WG Matters relating to technology used in the Number System Relating to Social Security and Taxes and national ID system |

**Reference 2:**

**Items to be examined mainly by the Task Force and its Working Groups to be established by the Task Force**

| Items to be examined | Outline |
|---|---|
| Making concrete the individual participation-type disease management service in the "My Hospital Everywhere" concept | Concerning the individual participation-type disease management service, examinations will be conducted on target diseases and the like by relevant Ministries and Agencies. |
| The range of information provided to individuals concerning the information with physician's remarks in the "My Hospital Everywhere" concept | Regarding the Patient's Discharge Summary and Image-reading Report, which includes physician's observations and remarks, the range of information to be provided to individuals will be examined by relevant Ministries and Agencies, considering the burden on the physician and requests from patients. Also, Detailed Receipt for Medical Charges will be examined when examining the Patient's Discharge Summary along with relevant Ministries and Agencies. |
| Rules on the secondary use of medical information handled in the "My Hospital Everywhere" concept | Concerning rules on the secondary use of medical information handled in the "My Hospital Everywhere" concept, at the time when necessary revisions on the systems are made based on the Guidelines for Provision to Third Parties (March 2011) at the Expert Council on Provisions of the Medical Insurance Claim Data, reports will be made on examined results by the relevant Ministries and Agencies which oversee managing organizations by referencing the relevant rules and systems and considering public benefits, |
| The way incentives should work for containing deterioration of diseases by the active use of IT. | Concerning "Incentives for containing deterioration of diseases by the active use of IT," the examination by relevant Ministries and Agencies will be the base. Meanwhile, examinations will be carried out on the objective indices for measuring medical outcome for providing incentives and for collecting quantitative evidence and the like for determining the objectives. |
| Making concrete the standard architecture to be referenced when building information collaboration systems at the Community Council and other levels | In relation to the "Community Collaboration Network beyond the Secondary Medical Area (Establishing Community Council)," examinations will be carried out on standards of measurement and existing examples of activities and so on. Concerning standard architecture, examinations will be made to enable information collaboration among prefectural governments. Information will be |

| | provided from examinations by the Ministry of Health, Labor, and Welfare on architectures and common formats for "Medical Information Databases," in view of future collaboration with community medical institutions and the like. |
|---|---|
| Active utilization of health insurance claim data by local governments, medical institutions, and insurers. | The directions into which the local governments, medical institutions, and insurers will go to actively utilize the health insurance claim data and the like will be made concrete. Surveys and examinations will be carried out in order to make active utilization by the above three parties materialize. |

**Addendum:**

**Evaluation with respect to Counter-Measures for Disasters on the Activities Discussed at the Healthcare IT Task Force: Based on Experiences of the Great East Japan Earthquake**

**1．Effects of the Earthquake**

**(1) Effects of the Earthquake on frontline of medical treatments**

The Great East Japan Earthquake hit on March 11, 2011. Due to large-scale damages caused by the quakes and tsunami, many medical institutions, such as hospitals, clinics, pharmacies and the like were unable to provide medical services. Even at those medical institutions that were able to continue to provide medical services, due to trouble caused by quakes, flooding and interruption of lifelines (especially electricity), they were unable to conduct appropriate examinations, so conditions where patient conditions could not be properly comprehended existed.

In regards to patient medical information, the tsunami swept away paper medical records as well as electronic medical records and the like. A condition existed where past patient medical treatment records themselves were entirely lost. In the cases of electronic medical records, the information existed, but there was no way to view or otherwise utilize the electronic medical records so it was not possible to refer to the past treatment data for confirmation at the time of medical examinations and treatments.

At the same time, patients with chronic hypertension and diabetes, could not utilize their customary medications, as they evacuated with very few of their possessions. Then, when these patients wanted to secure medications for which they had been prescribed, they could not remember accurately the information concerning their prescription drugs. Under the circumstances, where the information was in the hands of the medical institutions and records were lost, patients still had difficulty obtaining their medications.

If a patient could produce the Drug Notebook, the record on the Notebook detailed past prescription records and specific medications for specific diseases could be ascertained. This was considered very useful by those people who were on the forefronts of medical treatment.

**(2) Tasks relating to Healthcare IT**

This large earthquake that brought about the tsunami revealed a risk that, if one's medical information were uniformly stored at primary care medical institutions and the like, receiving appropriate medical treatment and care would still be difficult for both short- and mid-term ranges. This is to say that, if medical institutions were

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damaged, then the medical information would be lost in spite of high demands for medical treatment and care due to the disaster. These risks have shown the necessity for preventive measures against destruction or loss of medical information, especially at a time of disaster. This is now recognized more poignantly than ever as we proceed with digitization of medical information.

In order to bring a resolution to this problem, it would be effective to create back-ups of medical information in remote locations. In real terms, other than medical institutions themselves storing the information externally, it should be possible for medical institutions to share back-ups with each other and with patients by patients themselves holding necessary and minimum medical information separately. The "My Hospital Everywhere" concept and the "Seamless Community-Collaborated Medical Services" that have been examined in this Report will also contribute to backing up medical information, especially with respect to possible disasters.

## 2. Counter-Measures against Disasters and the "My Hospital Everywhere" concept

In the aftermath of this quake, many patients had to evacuate to locations far from their former residences. In such cases, it was difficult to depend on the medical information managed by the primary care medical institutions. However, in such cases, there were indications that the current version of the Drug Notebook was quite effective in the disaster areas. Thus, there is evidence that, in view of providing continued patient medical treatment, it is an effective concept for patients themselves to carry their own medical information, which can be used by physicians and other providers during disasters.

As written in the Report, the electronic version of the Drug Notebook/Drug Card of the "My Hospital Everywhere" concept is that patients will hold on to their own drug information within mobile phones, IC cards inside wallets and the like, which normally are likely to be carried by patients. Even in cases when the medical records and the like at medical institutions cannot be used, as with disaster evacuation facilities, if the mobile phones and IC records can be referenced depending on the operational formats, these records can be used as reference in providing appropriate treatment and prescriptions.

Mobile phones and IC cards not only excel in portability, but are usable via the mobile phone display or with other minimal devices, i.e., card readers, laptop PC's and the like, for easy access to the information on the Drug Notebook/Drug Card. In this regard, the Drug Notebook/Drug Card holds great potential for timely use even in a limited disaster medical environment.

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Since the electronic Drug Notebook/Drug Card in the "My Hospital Everywhere" concept is able to provide past medical records to medical treatment personnel at the time of a disaster, it is considered useful in light of continued medical service provision.

**3. Counter-Measures against Disasters and** the **Seamless Community-collaborated Medical Services**

As in the current earthquake disaster, even in cases where some medical institutions and pharmacies receive major damages making them inaccessible, it is conceivable that a system can be built whereby patient information and records held by medical institution can be shared in wide areas. To realize this environment, patient medical information must be easily obtainable from other medical institutions and the like. Even when patient information and the like held by each individual medical institution is lost, when electricity and other infrastructures are restored, back-up information can be provided in various forms to the patients and medical intuitions where patients are receiving medical treatment.

In this Report, it has been indicated that a service that stores referral form data and other medical treatment information from medical institutions is a function to be examined and provided in the future by the Community Councils. By making such a service the base of sharing of medical information, it would be possible to provide the measures mentioned above. In that regard, it would be important for the Task Force to continue to examine the range of information to be stored on an on-going basis, in terms of meaningful patient medical information back-up.

Having the Community Councils store diversified medical information means not only coping with the losses of medical information due to disasters, but also for other contingencies. For example, if a patient should need special drugs for difficult to cure diseases, and there is a unified medical information database held by the Community Councils and the like, it would be possible to quickly search the records of a specific patient and quickly make the proper requests for support. Furthermore, senior citizens involved in disasters may be in need of nursing care. Their conditions of activities of daily living (ADL) and dementia, etc. may not be adequately conveyed to physicians and others on the medical team. In short, when information on disease conditions and necessary nursing care were lacking, there were cases of disease conditions and ADL deteriorating. To cope with these situations, it would be effective for the Community Councils to store individual and family member information, including information that relates to nursing care, in a format that can be retrieved and

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shared.

Furthermore, in the disaster areas, in terms of utilizing limited resources and maintaining resident medical treatment service, active utilization of IT technology can be considered effective. Examples of this are using telemedicine in support of at-home medical treatment of chronic diseases and so on and imaging diagnosis support and the like by specialist physicians from remote locations.

In sum, some of the important tasks here are provision of personal information and speedy and accurate provision of information held by the Community Councils in disaster areas where personnel and information are lacking, even under conditions where supply of electricity and telecommunication networks are disrupted. By promoting the seamless community-collaborated medical services and building on existing mechanisms, etc., which manage and appropriately utilize varied medical information held by Community Councils, are considered useful in providing continued medical services to patients during disasters.

## 4. Counter-Measures against Disasters and the Utilization of Medical Insurance Claim Data and the like

When disaster patients receive medical treatment from medical institutions and the like in evacuation areas, there would potentially be provision of insurance claim data to third parties. This would occur when the patient is referenced on the history of diseases and prescription drugs at medical institutions and the like. The Health Insurance Claim Review and Refurbishment Services and the All-Japan Federation of National Health Insurance Organizations inquired with the Ministry of Health, Labor, and Welfare on these points. The Ministry indicated that, based on the Act on the Protection of Personal Information (Law No. 57 of 2003), when an individual is in agreement, the insurance claim data can be provided. As a result, the patient information recorded in past health insurance claim data at a medical institution and the like can be actively utilized.

Such utilizations are useful as references when health insurance claim data is considered and examined by medical institutions.