Roadmap for the Promotion of Healthcare DX (Digital Transformation)

I   Introduction

The pace of population aging in Japan is higher than that in any other country. As of 2021, the older population in Japan accounts for 28.9% of the total population, and this percentage is predicted to reach 37.7% in 2050. At the same time, the total population has entered a long-lasting decreasing phase.

For Japan, now facing the trend for an ultra-aged society earlier than any other country in the world, the attempt of extending the nation's healthy lifespan and making the social security system sustainable for the future to assure daily living at ease for future generations is indispensable in allowing the continued development and progress of the country.

Under such circumstances, active promotion of the utilization and application of information related to public health, healthcare, and long-term care is now quite important in contributing to the promotion of individual health, facilitating improvement of the efficiency of healthcare providers, etc., and enabling more efficient and effective provision of healthcare and related services.

Almost every year, natural disasters have hit various regions of this country. Over the past three years, the COVID-19 pandemic has affected all fields of activity in Japan profoundly. Therefore, also from the viewpoints of national security and risk management, it is indispensable to actively promote the utilization and application of these types of information. This needs to be accompanied by reinforcement of security measures in the fields of healthcare and so on.

In June 2022, the "Basic Policy on Economic and Fiscal Management and Reform 2022" was adopted (decision by the Cabinet on June 7, 2022), stipulating that efforts for the "creation of a nationwide healthcare information platform," "standardization of electronic medical chart information, etc." and "DX (digital transformation) related to national health insurance (NHI) reimbursement rate table revision" be made through close cooperation of the government and the related industrial fields, that the "Healthcare DX Promotion Headquarters (tentative name)" consisting of the Prime Minister (head) and related ministers be organized within the government, and that measures be taken and promoted by the entire government.

Thereafter, on October 12, 2022, the Healthcare DX Promotion Headquarters was organized, and the Prime Minister instructed it to start discussions toward the creation of a roadmap to enable speedy actions. The subsequent course of the discussions is given below.

- On November 24, 2022, the Board of the Healthcare DX Promotion Headquarters Coordinators held their first meeting, with the Deputy Chief Cabinet Secretary serving as the chairperson and the State Minister of Health, Labour and Welfare and the State Minister of Digital Agency serving as the deputy chairpersons, discussing the current status and open issues related to healthcare DX.

- On March 8, 2023, the second meeting of the same Board was held, discussing "the roadmap (draft outline) concerning the promotion of healthcare DX." Thereafter, on May 29, the third meeting of these coordinators adopted their decision about "Roadmap for the Promotion of Healthcare DX (draft)."

The roadmap presented here shows the basic views and concrete actions regarding the

governmental attempts of healthcare DX based on the above-mentioned background. It additionally specifies the destination of those actions and provides a base for checking the status of progress from now on while facilitating sharing of the same awareness by stakeholders.

Although this roadmap pertains basically to the governmental actions, we may not forget that the independent and voluntary commitment by healthcare/long-term care professionals working at medical facilities, pharmacies, long-term care facilities, or the like, and, among others, individual citizens, is indispensable in achieving healthcare DX. With this borne in mind, the government will promote this project while taking adequate care so that individual stakeholders may sufficiently feel the value and advantages of healthcare DX.

II   Basic Views

DX is an abbreviation for digital transformation and refers to the transformation of the form and style of business, society, and daily life by means of digital technology.

Therefore, the term "healthcare DX" can be defined as establishing the infrastructure composed of optimized information related to each stage of public health, healthcare, and long-term care (prevention of disease onset, visit to medical facilities, examination/treatment/drug prescription for patients, issuance of medical certificate, etc., application procedures, billing to the healthcare insurer, care through linkage of healthcare and long-term care professionals, regional healthcare linkage, research & development, and so on) and subsequently utilizing the established infrastructure to externalize, uniformize, and standardize the operations, systems, and data storage by public health/healthcare long-term care staff members with the goal of changing the form of society and daily living so that individual citizens' disease preventive activities can be facilitated and they may receive higher-quality healthcare and long-term care.

Based on this definition, the parties playing a central role in operations of the actions/measures related to healthcare DX are set forth, and implementation of the actions/measures are promoted, to achieve the following five goals by FY2030. In addition, while the cyber-security measures are reinforced by utilizing cloud technology, etc., other measures, such as review of the closed network, are taken to refresh the current systems into modern systems, simultaneously incorporating the viewpoint of cost reduction. During these steps, appropriate access to the systems is ensured by using the My Number Card and mounting its functions onto smartphones, and a goal is set at establishing systems under which medical facilities, local governments, long-term care providers, researchers, and others are linked together with the public health/healthcare/long-term care-related information, accompanied by the efforts for arranging an authentication system, etc., needed to enable sharing and utilization/application of these pieces of information in a manner that the public can trust.

1)   Further promotion of the nation's health

Individuals will be able to check their own information related to public health, healthcare, and long-term care from their birth to the present by themselves in an integrated manner in the form of PHR (personal health record), and this will contribute to the promotion of their health. The information on their test results, allergies, etc., which individuals do not always memorize, are visualized, enabling them to receive healthcare in a safe and assured manner when needed in the future. At the same time, if utilization of lifelog data, etc. (data digitally recording the daily life and activities of individuals), is enabled through advances in the environment for lifelog data

standardization, etc., it will lead to the prevention of illnesses, etc.

2) Seamless and efficient provision of higher-quality healthcare, etc.

Sharing of healthcare information by nationwide medical facilities, etc., under prior consent of individual patients and implementation of necessary security measures will enable seamless and efficient provision of higher-quality healthcare, etc. Furthermore, upon disasters or urgency, including the advent of the next epidemic-related crisis, sharing of necessary information related to healthcare, etc., will be possible when a citizen visits any medical facility or the like at any region of the country.

3) Improved work efficiency at medical facilities, etc.

Digitalization at medical facilities, etc., will be promoted, leading to improvement in work efficiency, the realization of a more efficient workstyle, and reduction in system-related costs. Furthermore, workplaces more attractive to healthcare professionals will be created through the self-efforts of medical facilities, etc., for digitalization-related operational reforms by means of supporting the operations with the utilization of ICT (information and communication technology) devices and AI (artificial intelligence) technology and rationalization with the utilization of operation-improving and analyzing software, etc. Furthermore, upon the advent of the next epidemic-related crisis, the counteractive force will be strengthened through reducing the burdens at healthcare providers (e.g., burdens of information entry, etc.) and enabling the rapid and reliable acquisition of necessary information.

4) Effective utilization of system operating manpower and others

Improvement in work efficiency related to revision of the national health insurance (NHI) reimbursement rate table will facilitate effective utilization of the manpower involved in healthcare information systems and reduce the cost of such systems, eventually allowing reduction of the overall cost of NHI management.

5) Establishing environments for secondary use of healthcare information

Secondary use of healthcare information under collaboration with private businesses will encourage pharmaceutical and healthcare industries (e.g., drug discovery and clinical trials) extending the healthy lifespan of the nation ultimately.

Toward these goals, the related infrastructure/systems will be arranged one after another.

First, in April 2023, it becomes obligatory, as a rule, for NHI-covered medical facilities and pharmacies to introduce a system for online verification of insurance information, etc. At the same time, integration of the My Number Card with the health insurance card will be accelerated, with the plan of ending the insurance of the current health insurance card in the fall of 2024. Through these measures, a nationwide infrastructure for sharing of the information related to healthcare, etc., will be established.

The electronic prescription system, which has already been operate, will be spread to almost all medical institution and pharmacies in Japan by March 2025. This will enable medical institution and pharmacies to check for duplication of the prescribed or dispensing-required drugs with the drugs currently being taken by a given patient receiving management at multiple medical facilities or to check for problems possibly arising from the concomitant intake of multiple drugs and so on.

By the end of fiscal 2023, the My Number Card-based information linkage system, applicable to the procedures related to healthcare expense subsidy, vaccination, and maternal & child health programs managed by the central government or independently by local governments, will be started, initially at local communities and medical facilities which desire such a system. This system will enable, for example, that the My Number Card is used as the certificate of the beneficiary for pediatric healthcare expense subsidy and as the ticket to receive vaccination, thereby reducing the burden of preparing and managing the document, etc., needed when a child is brought to a medical facility because entry into the pre-vaccination questionnaire or the like may be made on a smartphone. It will additionally ensure more appropriate medical care and vaccination at medical facilities because the physician can share the past data of infant/young child health checkups and vaccinations for a given child.

Through these measures, the environment allowing visits to medical facilities carrying only a My Number Card or a smartphone will be arranged.

By the end of fiscal 2024, sharing of the information on medication and healthcare based on the bills for NHI reimbursement will be enabled for ambulance crews transporting patients requiring critical care (including unconscious patients), thereby allowing the medical facilities accepting such patients to access the patients' healthcare information in an integrated and real-time basis and to provide quick, precise, and efficient treatment to such patients. Furthermore, the ability of medical facilities to check the tests received by a given patient in the past will enable avoiding repetition of tests stressful to the patient, thus contributing to the provision of efficient healthcare.

Sharing of the information in the form of electronic medical charts among medical facilities, etc., will be started step-by-step during fiscal 2024, initially at a limited number of medical facilities. Although electronic medical charts have already spread to some extent within the framework of the attempts of individual medical facilities to improve work efficiency, etc., it is now planned to promote standardization of the electronic medical charting system to stimulate further sharing of healthcare information. Spreading the electronic medical charts with these objectives will facilitate sharing of electronic medical chart information among many medical facilities, etc., contributing to provision of higher-quality healthcare, etc.

Furthermore, regarding the medical certificate or the like which needs to be submitted during the procedure for programs managed by local governments, it will be enabled during fiscal 2024 that the certificate or the like is issued electronically by medical facilities and submitted electronically via the Myna Portal, thus simplifying the procedure related to local government programs.

The above-mentioned information shared among medical facilities and local governments will be offered for sharing also by patients and their guardians via the Myna Portal, etc. In the near future, chronological presentation will be enabled concerning the data from infant/young child health checkups, school health checkups, and subsequent life-stage health checkups, etc. This will be useful in health management. It will also become possible to receive health management services tailored to individuals (e.g., management of physical condition corresponding to the symptoms unique to females which can develop at specific life stages) by means of utilizing the life log data provided by private sector enterprises. This can trigger behavioral alteration of individuals before the onset of chronic lifestyle-related illnesses, possibly leading to the prevention of such illnesses.

If sharing of information with long-term care providers is realized, such providers will be able to have necessary information related to the healthcare of care receivers, etc., even when the care receiver or their family members cannot provide precise information about the physical

condition or treatment status. In this way, high-quality and precise care and services can be provided to care receivers. Furthermore, if precise information about patients is provided to medical facilities from long-term care providers or the like during in-hospital care or the like for these patients, the medical facilities can provide environments for in-hospital long-term care, etc., tailored to the situations faced by the patients.

As far as the systems for providing healthcare or long-term care are concerned, cloudification (cloud migration) of systems and the introduction of cyber-security-assured systems will be started in FY2026, possibly leading to a reduction in system operation costs. Furthermore, digital transformation of documents submitted for application, etc., will cut the burdens on the staff in charge of information entry.

Thus, effective utilization of public health/healthcare/long-term care information will be facilitated by healthcare DX, enabling individual citizens to receive higher-quality healthcare and long-term care and to lead a healthy and rich daily life.

III   Concrete actions and goals

(1) Accelerated integration of My Number Card and health insurance beneficiary card, etc.

A patient can visit NHI-covered medical facilities or pharmacies just carrying a My Number Card and receive more appropriate healthcare based on their own health condition/medical care data. This and other examples indicate that the online verification of insurance information, in the process of which the My Number Card is used as the health insurance card, will serve as the base for healthcare DX.

In April 2023, online verification of insurance information was enabled, as a rule, at all NHI-covered medical facilities and pharmacies, and the efforts for expanding the online verification of insurance information to home visiting healthcare/long-term care providers, Judo therapists, massage/acupuncture/moxibustion providers, and so on were begun, accompanied by actions toward introduction of the smartphone-based health insurance certificate system (using smartphones carrying the My Number Card function), with the goal set at ending issuance of the current health insurance card in the fall of 2024. Online verification of insurance information for the livelihood protection program (healthcare expense subsidy) will be introduced during fiscal 2023.

(2) Establishment of the nationwide healthcare information platform

The systems for online qualification check, etc., will be expanded into the "nationwide healthcare information platform" enabling sharing of public health/healthcare/long-term care information.

To put it concretely, a system for the sharing and exchange of electronic medical chart information, etc., between medical facilities and pharmacies will be created through utilizing the online qualification check, etc., system network which connects nationwide medical facilities and pharmacies and through allowing the registration of electronic medical chart information, etc., into the electronic medical chart information sharing service (tentative name). Furthermore, a system for linking the local community health checkup information and the information on long-term care, vaccination, and maternal & child health will be established, allowing sharing of necessary information among medical facilities, pharmacies, or the like and local governments. Also, regarding the information generated from long-term care possessed by long-term care providers, an infrastructure enabling sharing of such information among long-term

care providers, medical facilities, and so on will be established. Furthermore, regarding the information about public health/healthcare/long-term care shared among individual parties (healthcare insurers, medical facilities, pharmacies, local governments, long-term care providers, etc.) which provide the information to the nationwide healthcare information platform, discussions will be made on the possibility of further utilization of the information for the sake of the parties' own businesses or activities.

During such a step, these information infrastructures will be connected to the history of qualification-related information stored in the online qualification check, etc., system, to achieve information linkage in a way similar to that applied to electronic prescriptions. At the same time, information linkage will be further expanded by utilizing the identify verification system making use of the My Number Card-based health insurance beneficiary certificate and the network involving medical facilities, etc. (online qualification check, etc., system, and so on).

1) Electronic prescription and electronic medical chart information sharing service

Regarding electronic prescription system, their nationwide expansion will be strategically attempted at targeted facilities, accompanied by the public relations activities to disseminate the relevant information (including convenience and utility) and the actions related to electronic signature. Necessary support will be provided with a target set at the introduction of such a system by March 2025 to almost all medical facilities and pharmacies having introduced the online qualification check system. The efforts for the expansion of electronic prescription system will be accompanied by optimization of medication from the viewpoint of avoiding duplicated administration of multiple drugs, etc. To put it concretely, the electronic prescription function will be expanded by additionally covering prescription refills, etc., during fiscal 2023. In addition, further expansion of the electronic prescription function, including in-hospital dispensing, improvement in the precision of duplicated medication check, etc., will be implemented in and after fiscal 2024. Regarding the technology for electronic signature, etc., a more effective support system will be arranged and technical issues will be resolved to facilitate appropriate introduction of such a technology while reducing the burdens at the time of introduction.

Regarding the electronic medical chart information sharing service (tentative name) for sharing of electronic medical chart information among medical facilities and pharmacies, the specifications and procurement will be fixed during fiscal 2023 and system development will be started during the same year. Its operation will start during fiscal 2024, initially at medical facilities, etc., having achieved standardization of electronic medical chart information.

To facilitate sharing of electronic medical chart information among medical facilities and pharmacies, remodeling or updating of the electronic medical chart system to the system corresponding to the standard specifications will be promoted at medical facilities already having introduced an electronic medical chart system.

2) Establishing a system for safe sharing of necessary information involving local governments, long-term care providers, and so on

When services such as healthcare and long-term care are provided, paper documents have been exchanged among patients, local governments, medical facilities, long-term care providers, and so on. Under this practice, patients have the burden of carrying the related documents and pocketbook, and each service provider or local government is required to enter information on each occasion. In addition, this practice limits the sharing of information among the parties involved.

Such operational flow will be reviewed, and an information linkage system allowing the safe exchange of necessary information among service providers, administrative organs, and so on will be arranged, to facilitate sharing of information related to long-term care insurance, vaccination, maternal & child health, publicly funded medical care, medical expense subsidies in local single project, and so on while being synchronized with efforts for the standardization of local government-related systems. Furthermore, the Myna Portal will be supplemented with the function of enabling individual citizens to enter the information needed for administrative procedures and to submit applications online, so that the procedures related to healthcare, long-term care, and so on may be completed online.

In connection with this system, the scope of long-term care information to be shared will be decided during FY2023, accompanied by defining of the requirements for related operations, discussions over the system design, and review of the operational flow at local governments. Then, the system development will start during FY2024 and will be implemented initially at local governments desiring such a system. From FY2026, it will be expanded at a nationwide scale while monitoring the progress the in standardization of local government-related systems.

Regarding digital transformation of vaccination procedures, investigation/research and pilot operation at desiring local governments will be started during fiscal 2023. Then, on the basis of the results of these actions, the system will be improved and applied to more local governments and medical facilities step by step, eventually leading to nationwide application while monitoring the status of local government-related system standardization.

Regarding maternal & child health, a pilot operation on sharing of the information on infant/young child health checkup, pregnant woman health checkup, and so on will be started at desiring local governments during fiscal 2023, followed by improvement of the system based on the results from such an operation and subsequent expansion of the operation to more local governments and medical facilities toward the goal of nationwide application while monitoring the status of local government-related system standardization.

Regarding expansion of the application of the system for online verification of insurance information, etc., to publicly funded medical care and medical expense subsidies in local single project, investigation/research, and a pilot operation at desiring local governments will be started during FY 2023, followed by improvement of the system based on the results from such an operation and subsequent expansion of the operation to more local governments and medical facilities while monitoring the status of local government-related system standardization, etc., toward the goal of nationwide application.

Other than these actions, investigation and research will be conducted during FY 2023 concerning sharing of the information on municipality examinations. Then, in FY 2024 to 2025, information of municipality examinations to be shared (e.g., about screening of cancers, osteoporosis, periodontal disease, and hepatitis viruses) will be discussed, including discussions over system-related issues, with the goal of yielding standard specifications, followed by the start of information linkage while monitoring the status of local government-related system standardization, etc.

In Fiscal 2023 to 2024, the application submission site within the Myna Portal will be remodeled, with the goal of enabling electronic submission of the medical certificates, etc., needed for the procedures related to local government's programs during fiscal 2024. Thereafter, the scope of documents possible for electronic submission will be expanded in steps.

Regarding test results, etc., a system allowing individual citizens to check the relevant information in the form of PHR via the Myna Portals will be arranged, accompanied by efforts for supporting the creation of use cases through life log data standardization, distribution

infrastructure establishment, and so on through linkage to private sector PHR business organizations and academia.

Furthermore, to facilitate rapid data collection as a routine practice in preparation for the next epidemic-related crisis, submission of an infection outbreak report via an electromagnetic means has been made mandatory from April 1, 2023, for the specific medical facilities designated for infectious diseases, class 1 medical facilities designated for infectious diseases, and class 2 medical facilities designated for infectious diseases pursuant to the Act Partially Amending the Act on Prevention of Infections and Healthcare for Infected Patients, etc. (Law No. 96, 2022, hereinafter called "Amended Law on Infections, etc."). In view of the planned addition of class 1 agreement-applicable medical facilities and class 2 agreement-applicable medical facilities to the existing classification of the medical facilities designated for infectious diseases scheduled for April 1, 2024, discussions will be made during fiscal 2023 over expansion of the scope of medical facilities designated for infectious diseases for which such reporting is mandatory, on the basis of the circumstances actually surrounding the medical facilities and so on, and a conclusion will be reached during the same year. At the same time, for purposes, such as reducing the burdens related to the entry of information in creation of infection outbreak reports at medical facilities, a standard specification for the infection outbreak report will be set forth with a perspective of linkage between the electronic medical charts and the infection outbreak reports. A concrete way of such linkage will be discussed, bearing in mind also utilization of the electronic medical chart information sharing service (tentative name), and a conclusion will be reached before long.

Other than these actions, discussions will be advanced during fiscal 2023 over the desirable way of digital transformation of actions/measures dealing with infections from now on, including discussions over collection of the information on patient's tests and specimens and over digitalization and simplification of various procedures (written notification of hospitalization recommendation, etc.) to be followed after submission of the infection outbreak report pursuant to the Act on Prevention of Infections and Healthcare for Infected Patients (law No. 114, 1998), bearing in mind also the countermeasures against the next epidemic-related crisis, and a conclusion will be reached before long.

3) Secondary use of information about healthcare, etc.

Regarding amendment of the Act on Anonymous Processed Healthcare Information for Contribution to Research and Development in the Field of Healthcare (Next-generation Healthcare Infrastructure Act), which includes creation of " pseudonymized medical data" to enable utilization/application of highly useful data (including utilization/application for pharmaceutical approval acquisition), we will take actions for steady implementation and promotion of healthcare information utilization/application.

Regarding secondary use of healthcare information shared at the nationwide healthcare information platform, a system/organization will be founded during fiscal 2023 for making clear the points of issue and inviting extensive discussions over data supply policy, ways of securing reliability, methods of linking, review systems, possible legal issues, and other points to be discussed before secondary use of healthcare information.

On the basis of the Amended Infectious Diseases Act, etc., embodiment will be achieved during fiscal 2023 about the system enabling the supply of epidemiological information of infectious diseases (derived from infection outbreak reports, etc.) to third parties after linking to other database information, analysis, and anonymization. The system thus embodied will be modified whenever needed. Furthermore, discussions will be made over how to perform investigation on

the efficacy and safety of vaccination more rapidly and precisely, by utilizing the information about the status of vaccination and suspected adverse reactions.

To substantially reduce the time to provide NDB (National Database of Health Insurance Claims) data, the system of data provision will be changed fundamentally. Specifically, the Healthcare Intelligence Cloud (HIC; a cloud-based analysis platform for healthcare data) that can monitor unauthorized logins will allow for remote analysis of Trial Datasets and NDB data in the fall of 2023. In the fall of 2024, the HIC function will be enhanced, allowing for monitoring inappropriate use and implementing a portal site. Furthermore, a framework for remote access to NDB data processed in advance will be established with monthly deadline for application submission and accessibility within 7 days after the application as a rule (excluding the time required by applicants).

Regarding the REBIND (Repository of Data and Biospecimen of Infectious Disease) project, the burdens on the participating medical facilities will be lessened to facilitate arrangement of the system/organization preparing for the next infection-related crisis and to stimulate utilization/application of the collected clinical information and specimens for drug development, etc. To these ends, discussions will be made also about the utilization of electronic medical chart information sharing service (tentative name) and linkage to electronic medical charts (including the standard electronic medical charts), and a conclusion will be reached before long.

(3) Electronic medical chart information standardization, etc.
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Regarding electronic medical chart information, sharing of 6 types of information provided in 3 document forms (patient referral document, summary at discharge, health checkup report, illness/injury name, allergy-related information, infection-related information, drug-contraindication-related information, test-related information [critical care and chronic lifestyle-related illnesses], and prescription-related information) will be advanced, with the scope of shared information being expanded in steps. To put it concretely, standard specifications will be set forth in fiscal 2023 for dialysis-related information and coding information covering the allergenic substances and in fiscal 2024 for information related to resuscitation and information related to dentistry, nursing, etc. Furthermore, during fiscal 2024, this action will be expanded to information particularly useful during critical care and so on, accompanied by arrangement of a system enabling rapid access to healthcare information needed for critical care of individual patients at medical facilities. At the same time, on the basis of the results of the pilot experiment conducted during fiscal 2022 concerning utilization of the My Number Card for rapid and smooth critical care, efforts will be made to achieve its nationwide application by the end of fiscal 2024.

So that healthcare information can be shared also by pharmacies, measures will be considered so that healthcare information may be provided in a manner compatible to the standard specifications (HL7 FHIR) of the pharmacies' NHI billing computer/medication history system. In addition, it will be discussed over the feedback information about drug intake status and others, supplied from pharmacies to medical institutions.

  2) Standard electronic medical charts

Concurrently with the actions/measures mentioned above, a cloud-based electronic medical chart system compatible with the standard specifications (standard electronic medical charts) will be arranged. To put it concretely, investigation and research will be conducted during fiscal

2023 concerning the requirements, definition, etc., for such a system, followed by the start of system development and test operation at limited medical facilities during fiscal 2024. The timing for its clinical application will be discussed, bearing in mind the linkage to the common calculation module for DX of NHI reimbursement rate table revision. Support needed for sharing of electronic medical chart information, covering also the medical facilities having not yet introduced any electronic medical chart system, will be discussed, and efforts will be made so that the electronic medical chart system for sharing of necessary healthcare information of patients may be introduced to almost all medical facilities by 2030[1].

In addition to standardization of the data for the systems of medical facilities, etc., and reduction of the costs for remodeling and connection related to external linkage, it is quite important to assure cyber-security. In this regard, clouding will be advanced, covering the medical facility systems, pharmacy systems, etc., by means of DX of NHI reimbursement rate table revision, supply of standard electronic medical charts, and so on. During such steps, the closed network of the systems at medical facilities, etc., will be reviewed. Through this and other actions, such a network will be refreshed into a modern system, thereby incorporating also the viewpoint of cost reduction.

(4) DX of NHI reimbursement rate table revision

At the time of revision of the NHI reimbursement rate table, medical facilities, other healthcare providers, and vendors have conventionally been required to take actions such as system remodeling, master maintenance, etc., in a manner concentrated during a short period of time, thus causing huge indirect costs in the forms of manpower and money. To achieve further improvement of the quality of healthcare under limited availability of human and financial resources, it is essential to minimize the indirect costs through unification, dispersion, and leveling of related operations and through maximal utilization of the advancing digital technology.

With this borne in mind, during fiscal 2024, actions will be taken to improve and supply the master serving as a common language for the systems at medical facilities, etc., and the electronic point table making use of such a master. At the same time, the rules related to the NHI reimbursement rate table will be made clearer and simplified to cope with the need of digital transformation, accompanied by acceleration of the development of a common calculation module (a nationwide uniform and common computerized calculation program for calculation of NHI reimbursement amounts and the amounts of patient's out-of-pocket payment at medical facilities). After a pilot operation in fiscal 2025, this module will be provided at a full scale during fiscal 2026. Then, a standard NHI billing computer equipped with the common master/module and standard format and style will be provided in a manner integrated with the standard electronic medical chart system, to facilitate drastic change of the systems at medical facilities, etc., into modern systems, while incorporating the viewpoint of cost reduction. When these actions are taken, attention will be paid also to reinforcement of the current system which exempts individual patients from making out-of-pocket payment exceeding the ceiling amount each time receiving services at medical facilities as well as to ensuring of the capability of contributing to secondary utilization of healthcare information (e.g., dealing with an infection-related crisis).

Through these actions/measures, the indirect costs and manpower burdens at medical facilities,

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[1] The electronic medical chart system at medical facilities is usually updated at intervals of 5–7 years.

etc., will be reduced. At the same time, regarding pushing back the timing of NHI reimbursement rate revision, the year and timing of revision will be discussed on the basis of the discussions made at the Central Social Insurance Medical Council.

(5) Parties playing a central role in healthcare DX

So that the actions/measures related to healthcare DX may be promoted rapidly and powerfully under the central government's decision making, it is needed to coordinate the entire systems related to healthcare DX and to implement system development in an agile and wasteless manner. To this end, we will specify the parties playing a central role in constructing the nationwide healthcare information platform (through expansion of the online qualification check, etc., system) and in taking the actions described in this roadmap (e.g., DX of NHI reimbursement rate revision). To put it concretely, the Health Insurance Claims Review & Reimbursement Services will be drastically reorganized so that it can play a central role in developing and managing the healthcare DX-related systems, in addition to the conventional function of claims review and reimbursement, from the viewpoint of utilizing this organization's experience and know-how with collection/analysis of NHI reimbursement bills, development of the infrastructure for online qualification, etc., check system, and so on.

This reorganization will be implemented while getting the commitment of local stakeholders and ensuring a system in which the central government can manifest governance at its responsibilities, so that decision making may be done in an integrated manner flexibly coping with the continuously changing IoT (Internet of Things) technology and systems and that the existing actions/measures may be incorporated effectively into this reorganization. From this point of view, discussions will be made without delay over concrete forms/designs of organizations, manpower allocation, funds managed (including the public support) based on the viewpoint of "charging to the beneficiary," and necessary actions will be taken following the discussions.

IV   Follow-up

So that the actions/measures related to healthcare DX may be promoted definitely, the progress will be periodically checked by the Healthcare DX Promotion Headquarters or the Board of Healthcare DX Promotion Headquarters Coordinators, and follow-up (flexible review, etc.) will be made as needed, while taking into account also advancements in digital technology.

The relevant offices/ministries of the central government will keep close linkages and perform review/correction of actions/measures so that this project may be enriched and reinforced continuously.