

**The Health and Global Policy Institute (HGPI)
2023 Kidney Disease Control Promotion Project**

**Establishing Kidney Disease Control Measures
with Patient, Citizen, and Community Engagement and Collaboration:
Policy Recommendations and Best Practices
for Chronic Kidney Disease (CKD) Control from Local Governments**

March, 2024

Table of contents

Introduction: History of kidney disease control and background	3
Part I: Policy recommendations for establishing kidney disease control measures with patient, citizen, and community engagement and collaboration	5
1. Overview of recommendations	5
2. Recommendation details	8
Part II: Best Practices from Local Governments	23
1. Best practices from local governments: Methods of collection and background	23
2. Summary of interviews on local governments' best practices	23
3. Individual best practices (Titles omitted; in Japanese syllabary order by prefecture and city)	26
3-1. Gifu Prefecture	26
3-2. Chiba Prefecture	30
3-3. Nagasaki Prefecture	32
3-4. Yamanashi Prefecture	34
3-5. Okayama City, Okayama Prefecture	36
3-6. Kumamoto City, Kumamoto Prefecture	37
3-7. Takasaki City, Gunma Prefecture	40
3-8. Asahi City, Chiba Prefecture: Kensuke Yoshimura (Head and Specially-Appointed Professor, Center for Next Generation of Community Health, Chiba University Hospital; Representative, COV-Navi), Hidekazu Iida (Specially-Appointed Lecturer, Center for Next Generation of Community Health, Chiba University Hospital)	42
3-9. Minato City, Tokyo: Akira Fukui (Lecturer, Division of Nephrology and Hypertension, Department of Internal Medicine, Jikei University School of Medicine)	44
3-10. Nagasaki City, Nagasaki Prefecture	46
3-11. Matsumoto City, Nagano Prefecture: Yuji Kamijo (Clinical Professor, Department of Nephrology, Shinshu University School of Medicine)	48
3-12. Sado City, Niigata Prefecture: Yoshiko Tominaga (Professor, Department of Social Pharmacy, Faculty of Pharmacy Sciences, Niigata University of Pharmacy and Medical and Life Sciences)	50
Acknowledgments	52

Introduction: History of kidney disease control and background to these recommendations

Devoted efforts from related parties have driven steady progress in efforts for kidney disease control in Japan. In 2007, a committee called the Kidney Disease Control Review Meeting formulated a plan called “The Future of Measures for Kidney Disease Control.” A decade later, in 2017, they met once again to look back on the previous decade and track progress and identify issues that had emerged. In addition to confirming that suitable progress had been made in terms of establishing a healthcare provision system and developing human resources, they also recognized progress was being made in establishing a treatment environment, particularly through pharmaceutical development for the treatment of chronic kidney disease (CKD), which had become a major disease for Japan. The importance of CKD prevention and severity reduction was also mentioned in the Basic Policy for Economic and Fiscal Management and Reform 2018. However, more new patients and increasing prevalence means growth in the number of people receiving dialysis is going unchecked, and this trend is expected to continue as the population ages. The term “chronic kidney disease” or “CKD” has appeared in a number of policies. For example, the Basic Policy for Economic and Fiscal Management and Reform 2023 includes, “Promote steady measures for CKD;” the Japanese National Plan for Promotion of Measures Against Cerebrovascular and Cardiovascular Disease (Second Phase) says, “Promote prevention of the onset and exacerbation of CKD;” the eighth revision of the Medical Care Plan discusses, “the need to secure a system for the delivery of CKD treatments;” and Health Japan 21 (Third Term) says, “Measures for hypertension and dyslipidemia will also be important for reducing CKD.” As we can see, the Government of Japan is focusing efforts on measures for CKD. Given this context, Health and Global Policy Institute (HGPI) launched the Kidney Disease Control Promotion Project in 2022 to elevate public interest and build momentum for more effective, organic measures for kidney disease.

Through meetings and interviews with experts centered on the field of kidney disease, our project identified and recommended measures for nationwide equity in kidney disease measures in 2022. Our recommendations included the need for CKD prevention and early intervention; the importance of collaboration spanning multiple disciplines and institutions; the need to share and expand emerging best practices on a prefectural and community basis; and the need to advance measures for kidney disease control based on the perspectives of patients and other affected parties. (For details, please see our urgent recommendations presented in 2022 titled, “[Current Issues and Topics in Kidney Disease Control](#).”)

Based on the content of that proposal, in 2023, we worked to further evolve the discussion on CKD control through stronger cooperation with representatives of academia, healthcare professionals, and patient advocacy organizations. While some of the municipalities that will be responsible for implementing those measures have developed or are developing best practices, many are still exploring their options, and it is difficult to say that concrete and effective measures for CKD control are spreading throughout Japan. In response, we conducted interviews with eight local governments and four experts in August and September 2023 to gather best practices in CKD control from throughout the country. With the aim of further promoting CKD control, those interviews examined the backgrounds of successful efforts and processes for the promotion of CKD control, the lessons that were learned, and the current needs of local governments. Details on our findings are provided in Part II.

Then, after HGPI compiled the issues that emerged over the course of those interviews, on September 20, 2023, we convened a meeting of our advisory board that includes representatives of industry, Government, academia, and civil society and that is centered on specialists in the field of kidney disease. Together, we discussed how specialists can best contribute to addressing the

March,2024



challenges raised during the interviews as well as to the introduction of CKD control measures (for early detection, diagnosis, and the prevention of advanced disease) that are rooted in communities.

These recommendations were compiled by HGPI from a neutral standpoint and are based on discussion points obtained during the aforementioned advisory board meetings and interviews on local governments' best practices. We hope these recommendations will be of assistance to policy makers and other related parties as well as advance policies for kidney disease control with participation and cooperation from patients, citizens, and communities.

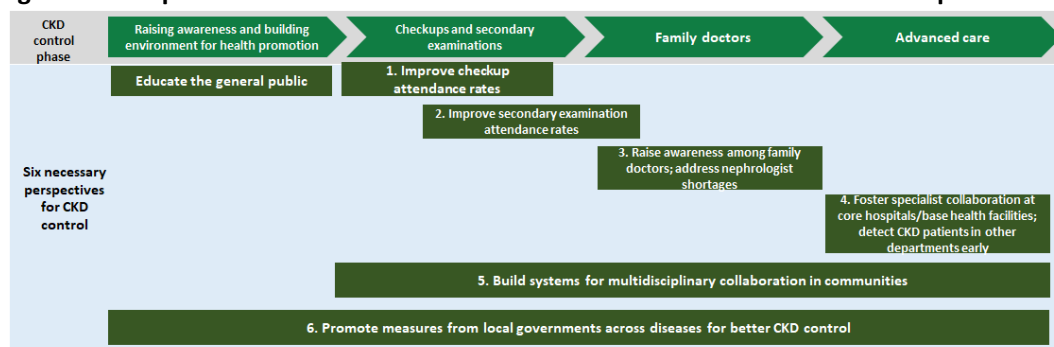
Part I: Policy recommendations for establishing kidney disease control measures with patient, citizen, and community engagement and collaboration

1. Overview of recommendations

The overall goals in the FY2018 report presented by the Ministry of Health, Labour and Welfare (MHLW) Kidney Disease Control Review Meeting state that CKD can be considered a new major disease for Japan and that due to its lack of subjective symptoms, it will be important to identify how to best detect CKD and intervene early. It went further to state that to slow or halt the progression of CKD, it will be necessary to provide appropriate and continuous treatments tailored to pathology, and that this will require collaboration in communities that transcends organizations and professions.

When considering CKD measures along the patient journey, they must be examined in terms of the phases experienced by CKD patients. These are, in order, (1) suspicion of CKD after a routine health checkup followed by (2) consultation with a family doctor¹ and (3) and consultation with a specialist. While improving CKD control will require addressing issues in each of these phases, this is an area with few subjective symptoms that is characterized by a vast amount of issues related to receiving and continuing treatment. During the transitional periods between the aforementioned phases, there are many people with CKD who are not linked to medical examinations at health institutions, who cannot receive the right treatments at the right times even after being linked to health institutions, or who suspend treatment. A number of key actions must be taken to detect more CKD patients at early stages. These include (1) increasing medical examination attendance rates; (2) recommending follow-up examinations to people identified as being at high risk for CKD during medical examinations and ensuring they visit health institutions; (3) ensuring local health institutions that provide family doctor services improve their understanding of CKD, provide early detection and intervention, and refer patients to and work with nephrologists when necessary (hospital-clinic collaboration). It will also be important for (4) specialist physicians at core hospitals and central health institutions to engage in mutual collaboration for the early detection of CKD patients being treated in other departments. To implement the processes described in (1) through (4) in a comprehensive and effective manner, it will also be necessary to have (5) multidisciplinary collaboration in communities and (6) predetermined roles for and collaboration among prefectures and municipalities as well as policy assessments to advance measures overall. The following recommendations for the further promotion of CKD control are offered from the six perspectives described above. (Please refer to Fig. 1, “Six Perspectives Needed for CKD Control Tailored to Each Phase of CKD Response.” Numbers (1) through (6) described above correspond to those in Fig. 1.)

Fig. 1: Six Perspectives Needed for CKD Control Tailored to Each Phase of CKD Response



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¹ Hereinafter, any physician responsible for community healthcare shall be referred to as a “family doctor.”

Six Policy Recommendations for Kidney Disease Control with Patient, Public, and Community Participation and Collaboration

1. Detect more people with suspected CKD at early stages by improving medical examination attendance rates and further strengthening CKD screening in routine medical examinations and insurers' measures for CKD control.
2. Facilitate medical examinations and treatment at health institutions for people suspected of having CKD based on their checkup results by improving methods for providing those recommendations and for explaining CKD. At the same time, improve CKD awareness among the general public.
3. Ensure CKD patients who are referred to health institutions for additional consultations can be provided with continuous medical interventions and dietary and lifestyle guidance in a manner that is timely and well-suited to their symptoms and test results. To this end, raise CKD awareness among family doctors; disseminate medical guidelines and referral criteria; introduce assessments for each CKD stage; consider incentivizing treatment; and address shortages in and the uneven geographical distribution of nephrologists.
4. Achieve integrated treatment through systems that enable collaboration among specialists in kidney disease, diabetes, and other fields at core hospitals and central health institutions and that allow for the early detection of CKD patients among people being treated in other departments.
5. Promote community CKD measures through the activities of health professionals such as physicians, nurses, pharmacists, national registered dietitians, and public health nurses undertaken in their respective roles, establish systems for multidisciplinary cooperation that include local governments and the patient community, and promote comprehensive and cross-cutting countermeasures that target CKD and other lifestyle diseases.
6. After clearly defining the roles of prefectures and municipalities, each municipality should promote CKD measures together with those for diabetes and other lifestyle diseases. Introduce indicators for interim appraisal other than number of new dialysis patients and repeatedly apply an effective Plan Do Check Action (PDCA) cycle to CKD control measures.

On October 31, 2023, the MHLW presented a report titled, "[Interim Evaluation of Initiatives Related to the Kidney Disease Control Review Meeting Report of July 2008 and Future Initiatives](#)" (in Japanese only). That report compiled key items for five individual measures to advance in the future. The six recommendations from HGPI described above are related to these five measures, which are shown in "Fig. 2: Excerpt from the 'Interim Evaluation of Initiatives Related to the Kidney Disease Control Review Meeting Report of July 2008 and Future Initiatives.'" Initiatives and best practices for resolving the challenges listed in "Items requiring further promotion in the future" in Fig. 2 are described later in this proposal in "Part I – Recommendation Details" and "Part II – Best practices from local governments." It is our sincere hope that these recommendations are of assistance to policy makers and other related parties.

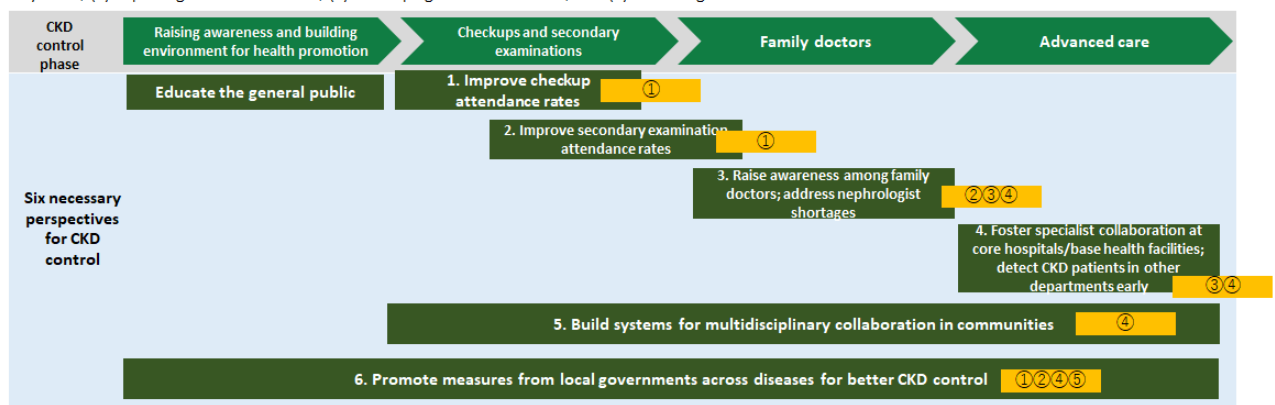
Figure 2: Excerpt from “Interim Evaluation of Initiatives Related to the Kidney Disease Control Review Meeting Report of July 2008 and Future Initiatives”

Individual measure	Items requiring further promotion in the future
(1) Dissemination and awareness-raising	<ul style="list-style-type: none"> o Considering new methods of approaching working-age adults and similar groups o Educating/raising awareness toward the importance of accurate CKD knowledge and early medical examinations
(2) Establishing local healthcare provision systems	<ul style="list-style-type: none"> o Disseminating referral criteria, etc. among health facilities and reinforce collaboration o Educating/raising awareness toward the importance of early detection and treatment at health facilities o Utilizing collaborative passes that help coordinate health facilities and nephrologists and facilities with family doctor services related to CKD treatment
(3) Improving standards of care	<ul style="list-style-type: none"> o Initiatives for enabling CKD patients to balance employment and treatment o Disseminating all guidelines, etc., and encouraging the bottom-up spread of best practices regarding activities, etc. of Kidney Disease Treatment Advisors, etc. in each region
(4) Developing human resources	<ul style="list-style-type: none"> o Training, placement, etc. of medical staff like nurses, dietitians, pharmacists, etc. with the basic CKD knowledge possessed by Kidney Disease Treatment Advisors, etc. in areas with nephrologist shortages o Disseminating standardized tools for multidisciplinary health guidance
(5) Promoting R&D	<ul style="list-style-type: none"> o Establishing more appropriate methods of evaluating the effectiveness of kidney disease interventions o Conducting research using the Japan Chronic Kidney Disease Database (J-CKD-DB), etc.

Source: MHLW (Provision translation: HGPI)

Figure 3: “Six Perspectives Needed for CKD Control Tailored to Each Phase of CKD Response” (Fig. 1) and “Response for Individual measures” (Fig. 2)

Numbers in yellow boxes correspond to individual measures in Fig. 2: (1) Dissemination and awareness-raising; (2) Establishing local healthcare provision systems; (3) Improving standards of care; (4) Developing human resources; and (5) Promoting R&D.



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2. Recommendation details

Recommendation 1: Detect more people with suspected CKD at early stages by improving medical examination attendance rates and further strengthening CKD screening in routine medical examinations and insurers' measures for CKD control.

Only 56.5% of people covered by National Health Insurance attended specific health checkups in 2021.² Increasing this rate will be an important step in detecting more people with early CKD. Doing so will require grasping the characteristics of the people who have not yet received checkups and determining how to establish an environment that facilitates checkups and is tailored to citizens' needs and opinions.

There are also high expectations for insurers to reinforce their roles. In addition to providing recommendations for health checkups and raising awareness, insurers should also conduct more serum creatinine testing, as is effective for CKD screening. Steps should also be taken to ensure serum creatinine levels and Estimated Glomerular Filtration Rate (eGFR) are reported together so insurers can effectively utilize health checkup results. Thorough CKD screening should also be conducted among people who are ineligible for specific health checkups, such as those with hypertension and diabetes mellitus.

In addition to these steps, cross-cutting and comprehensive measures should be taken for all lifestyle diseases in addition to CKD. Moving forward, steps should be taken to consider the creation of an environment that allows for the comparison and analysis of health checkup data from checkups covered by occupational health insurance schemes and by regional health insurance schemes, to unify health checkup items, and to standardize evaluation criteria.

Facts, challenges, backgrounds, and other factors related to recommendation

➤ **Reinforcing items related to CKD screening in health checkups**

- Serum creatinine testing is an effective method of CKD screening and its use in health checkups alongside urine protein tests should be strengthened. Physicians conducting checkups should be encouraged to be thorough about serum creatinine testing in eligible people. Making serum creatinine testing a mandatory part of routine health checkups regardless of age or insurance coverage is another measure that should be considered. Insurers and service providers should cooperate to ensure that records of both serum creatinine and eGFR levels are taken so insurers can use health checkup results to provide recommendations to people who require further testing.
- Thorough CKD screening should also be conducted among people who are not eligible for specific health checkups, particularly people with hypertension or diabetes, and active steps should be taken to promote medical examination recommendations and guidance for improving dietary or lifestyle habits. Other people who should be targeted for CKD screening outside of those eligible for specific health checkups include those at risk for comorbid conditions like dyslipidemia or obesity.

➤ **Grasping the characteristics of people who have yet to receive medical examinations and establishing a checkup environment tailored to citizens' needs**

It will be important to establish an environment for routine or comprehensive medical examinations that is tailored to the voices of those most affected and that takes privacy into account. For example, women-only days for medical examinations could be established so

² MHLW, "Regarding the implementation status of specific health checkups and specific health guidance, FY2021." <https://www.mhlw.go.jp/content/12400000/001093812.pdf>. Last retrieved on December 13, 2023.

women could wear medical examination gowns without feeling concerned about onlookers, or support for the use of in-house childcare could be provided. There are also community members who are socially withdrawn, who have mental disorders or dementia, or who live with other conditions that mean they require support from long-term care and welfare services in order to attend medical examinations. Measures that reflect the characteristics of people who have yet to undergo medical examination must be introduced.

➤ **Enhancing the functionality of insurers and the Japan Health Insurance Association and deepening collaboration with healthcare providers**

Small and medium-sized enterprises (SMEs) with fewer than 50 employees are only obligated to make efforts to arrange to have an occupational physician on staff, resulting in cases where no occupational physician is present. This can make it difficult to provide employees with uninterrupted health guidance or recommendations to visit a family doctor. To reach out to more people who may have latent CKD, expectations are high for the Japan Health Insurance Association and other insurers that provide coverage to SME employees and their families to introduce improvements for enhanced functionality. This will require various methods of encouraging and supporting efforts from insurers to strengthen actions for CKD control, such as raising awareness toward CKD, strengthening health guidance, providing all necessary medical examination recommendations, and building a system that facilitates communication with health institutions.

➤ **Challenges in the current health checkup and healthcare system and necessary future cooperation among insurers**

- Many cases of untreated CKD are detected at health checkups, but awareness toward stopping the progression of CKD tends to be poorer among people in earlier stages that do not require visits to health facilities compared to people who visit outpatient nephrology clinics. Even if people in earlier stages are provided with health guidance, many do not try to adopt healthier habits.
- One systemic issue that affects both CKD and disease control in general is that data from health checkups conducted under occupational health insurance schemes cannot be compared with data from checkups conducted under regional health insurance schemes. In the future, steps should be taken to consider unifying items covered by examinations so the data from different types of insurers can be compared and evaluated with unified standards.

Table 1: Items for CKD screening in each medical examination system in Japan and test implementation status

Eligible parties for health checkup		CKD screening item and implementation status
Insured parties and dependents	Employees	
<u>Each health insurance law</u> (Health Insurance Act, National Health Insurance Act, etc.) Subjects: Health insurance members and their dependents (age 39 and under). Implementing party: Insurers (legally obligated to endeavor)	<u>Industrial Safety and Health Act</u> Eligible parties: Workers engaged in regular employment Main providers: Companies (employers obligated)	Urinary protein: Yes (by law) Serum creatinine: Sometimes* eGFR: Sometimes* *(At the Japan Health Insurance Association) Insured: Yes, Dependents: Sometimes (determined by physician)
<u>Act on Assurance of Medical Care for Elderly People</u> Subjects: Health insurance members (ages 40-74) Implementing party: Insurers (Obligated)		Urinary protein: Yes (by law) Serum creatinine: Sometimes (determined by physician) eGFR: Sometimes (determined by physician)
<u>Act on Assurance of Medical Care for Elderly People</u> Subjects: Insured parties (age 75 and over) Implementing party: Associations of Medical Care Services for Older Senior Citizens (Obligated to endeavor)		Urinary protein: Yes (by law) Serum creatinine: No (ineligible) eGFR: No (ineligible)

Compiled by HGPI using reference materials from the MHLW and the Japan Health Insurance Association³

³ Works referenced are as follows.

MHLW. "Overview of Japan's Medical Examination System."

<https://www.mhlw.go.jp/content/10901000/000682242.pdf>. Last retrieved on December 28, 2023.

MHLW. "Regular Medical Examinations Conducted in Accordance with the Industrial Safety and Health Act."

<https://www.mhlw.go.jp/file/05-Shingikai-11201000-Roudoukijunkyo-Soumuka/0000136750.pdf>. Last retrieved on December 28, 2023.

MHLW. "Standard Medical Examination and Health Guidance Program. Part 2, Chapter 7: Medical Examination and Health Guidance for Senior Citizens Age 75 Years and Over."

https://www.mhlw.go.jp/bunya/kenkou/seikatsu/pdf/02b_0011.pdf. Last retrieved on December 28, 2023.

Japan Health Insurance Association. "Comparison Table of Items Tested." [20180401-kensakoumoku.pdf \(kyoukaikenpo.or.jp\)](https://www.jha.or.jp/kyoukaikenpo.pdf). Last retrieved on December 28, 2023.

Recommendation 2: Facilitate medical examinations and treatment at health institutions for people suspected of having CKD based on their checkup results by improving methods for providing those recommendations and for explaining CKD. At the same time, improve CKD awareness among the general public.

There are limitations to current methods used to recommend additional consultations at health institutions based on checkup results. Such recommendations are provided over the phone or by mail and often do not lead to consultations. A number of options that help ensure patients receive medical examinations should be considered. These may include removing the obstacles that prevent people from attending examinations, providing incentives for attending examinations, providing personal recommendations during home visits from public health nurses or interventions from multidisciplinary teams, and providing patients with easy-to-understand explanations of what their results mean and how their conditions could worsen in the future. Furthermore, understanding and awareness toward CKD should be broadly disseminated and more people should be encouraged to be proactive about seeking medical examinations based on their test results.

Facts, challenges, backgrounds, and other factors related to recommendation

➤ **Limitations of the current system for recommending medical examinations**

If someone should seek an examination at a health institution after undergoing a specific health checkup under the National Health Insurance system, the government notifies them through mail or over the phone. These methods do not encourage people to seek examinations and have reached the limit of their effectiveness. For example, a trial called the “[Japan Diabetes Outcome Intervention Trial 2](#)” (J-DOIT2) that aimed to reduce dropout from regular diabetes care visits among patients with diabetes found that the younger the participant, the less likely they were to adhere to recommendations for medical examination. In addition, an empirical study conducted in the Diabetic Nephropathy Aggravation Prevention Program found that recommendations to seek medical examination provided by phone were not well-received.

➤ **More effective methods of and approaches to recommending medical examinations to eligible people**

- Among measures for diabetic nephropathy, one good example comes from a local government that creates a list of people who have not visited a health facility for examination that is used by public health nurses who visit each home to provide a recommendation. Then, cooperating with regional intervention teams consisting of multidisciplinary health professionals from various fields, those people are provided with thorough medical examinations.
- Concrete action must be taken to address this issue. This may include encouraging people who are eligible for specific health checkups to attend them by providing some form of incentive.
- In certain communities, medical examination recommendations are being provided to people living with mental disorders or dementia. To prevent such people from going without medical examinations and from being left behind, support and intervention should not be limited to CKD control. Actions should also be taken to encourage people to utilize systems like the medical assistance system in accordance with the Public Assistance Act or by having someone accompany them to medical examinations.
- Efforts must be made to devise methods of presenting health checkup results in a manner that elevates interest among people suspected of or living with CKD. In particular, measuring and visualizing urinary salt content and teaching people about the significance

of this value and their potential to experience severe illness in the future alongside indicators may lead to changes in behavior toward medical examinations.

➤ **Building CKD awareness among the general public and encouraging employers to build understanding and reform systems**

Wide-reaching methods of approaching citizens (including television commercials and other media) to encourage greater awareness toward CKD should be examined and utilized to build understanding.

Some people are unable to report health problems like CKD and other chronic diseases to their employers out of concern that doing so may impact their career. Companies must establish labor management systems that will allow members of the workforce to balance work and treatment. Because it is somewhat understandable that it is difficult for people to make major changes to their daily habits, it is also important to educate younger generations. This means children should be provided with opportunities to learn about CKD during health and physical education classes at school.

Recommendation 3: Ensure CKD patients who are referred to health institutions for additional consultations can be provided with continuous medical interventions and dietary and lifestyle guidance in a manner that is timely and well-suited to their symptoms and test results. To this end, raise CKD awareness among family doctors; disseminate medical guidelines and referral criteria; introduce assessments for each CKD stage; consider incentivizing treatment; and address shortages in and the uneven geographical distribution of nephrologists.

Promoting understanding and awareness toward CKD treatment among family doctors will be an essential step in ensuring CKD patients who undergo additional examinations at health facilities after checkups can receive specialized interventions that suit their symptoms and test results. While distributing and disseminating CKD treatment guidelines to family doctors will be important, in the future, consideration should also be given to the creation of reference materials so even family doctors who do not focus on kidney disease can learn the fundamentals of CKD treatment even when their time is limited. Other items to also consider include methods of building awareness and providing support to expand access to urinalysis at family health institutions and identifying incentives for adhering to guidelines.

Another serious issue is the shortage of nephrologists in certain regions. Given the increasing number of people with CKD, measures to address human resource shortages should be examined and introduced. These include enhancing family doctor (internist) services and enabling them to collaborate with specialists over the internet; building local collaborative systems for family doctors and specialists; training Kidney Disease Treatment Advisors; and examining the integration of various types of treatment advisors into “Lifestyle Disease Treatment Advisors” to develop highly-specialized paramedics.⁴

Facts, challenges, backgrounds, and other factors related to recommendation

➤ **Hurdles and challenges in family doctors’ efforts to promote CKD control**

- One challenge facing early CKD detection and intervention is that urinalysis is not being conducted by family doctors to a sufficient degree. This is caused by the increased workloads that accompany testing, the need to purchase and maintain equipment, and insufficient infection control measures. Family doctors’ specialties are not limited to nephrology or internal medicine and it is not realistic for all physicians to conduct urinalysis at their clinics, but steps should be taken to expand access to urinalysis in line with CKD treatment guidelines using methods like distributing urinalysis kits in advance and outsourcing testing.
- For people with diabetes, albuminuria testing is covered by insurance and early screening is required from the perspective of preventing severe diabetic nephropathy. However, if physicians do not know which patients are eligible for albuminuria testing,⁵ they may mistakenly believe their patient is ineligible for medical service fee reimbursement. This can result in some patients going untested. Given these circumstances, physicians are sometimes hesitant to conduct testing. Actions must be taken to ensure physicians are fully informed of who is eligible for albuminuria testing and the frequency at which reimbursements will be granted for such tests. Furthermore, thorough albuminuria testing of people with diabetes must be encouraged so members of this group are not excluded. Albuminuria is known to be a risk factor for cardiovascular disorders

⁴ Paramedics: In these recommendations, “paramedics” mainly refers to nursing staff (nurses and public health nurses), dietitians, and pharmacists.

⁵ Eligible patients: Insurance reimbursements granted to quantitative urinary albumin testing “May only be applied for once every three months when performed on patients with diabetes or in the early stages of diabetic nephropathy (only for stage 1 or 2 of diabetic nephropathy) and who are suspected of microalbuminuria.”

independent of eGFR, so it can be used as a screening tool for people other than those with diabetic nephropathy. Albuminuria tests can detect kidney disease earlier than urine protein tests, so it is desirable that albuminuria is considered for insurance coverage in the future. On the global level, the inclusion of albuminuria testing alongside eGFR is being promoted as a general CKD screening item. Promoting albuminuria testing in Japan will make it possible to detect more people with CKD or suspected CKD as well as help promote research that meets international standards.

Table 2: Scope of insurance coverage for laboratory tests in medical care

	Diabetes	Suspected CKD (Non-diabetic)
Urinary protein	Yes (Covered)	Yes (Covered)
Serum creatinine	Yes (Covered)	Yes (Covered)
eGFR	Yes (Covered)	Yes (Covered)
Albuminuria	Sometimes* (Covered)	No

Created by HGPI.

*May only be applied for only once every three months when performed on a patient with diabetes or early-stage diabetic nephropathy with suspected microalbuminuria (limited to stage 1 or stage 2 diabetic nephropathy). For people with diabetes, insurance does not cover urinary albumin tests in cases when quantitative urinalysis detects urinary protein levels of 1+ or higher.

➤ **Measures and policy support for encouraging family doctors to actively treat CKD**

- Steps should be taken to examine the creation of mechanisms that will help physicians learn how to stage CKD and evaluate CKD pathology. Categorizing the stages of CKD will raise awareness toward each stage and encourage treatments and interventions that are suited to the pathology. Because physicians in Japan can receive medical service fees even if they do not record CKD stage, it is not currently common for them to clearly categorize the condition by stage. However, to delay or halt the progression of CKD, changes in test values and symptom progression must be monitored objectively, relatively, and on a regular basis using the CKD heat map. If assessing CKD pathology by stage becomes an established and widespread practice among family doctors, physicians will become more aware of serum creatinine, urinary protein, and (for patients with diabetes) albuminuria values. This is likely to help them provide treatments and interventions that are tailored to patients' conditions. In the future, it will be necessary to consider evaluations for each stage as well as to consider how to support such efforts through policy, including through the medical service fee system.
- There are high expectations for greater future utilization of technology to enable family doctors to proactively treat CKD and to foster hospital-clinic collaboration. For example, electronic medical records should include a function that automatically alerts users to a patient's CKD stage based on serum creatinine and urine protein test results, or a system that automatically suggests which tests to perform and when after a user inputs the name of the condition and its stage of progression.
- One positive development in medical service fee revisions has been that the premium for lifestyle disease management has become more comprehensive. Introducing care quality assessments may encourage family doctors to be more proactive about treating CKD, so there are high expectations for future steps to examine further policy support. For example, specific outcomes could be set as conditions for medical service fee reimbursement.

➤ **Raising awareness and educating family doctors, disseminating treatment guidelines, and**

collaborating with specialists

- Over the past three to four decades, the prevalence of CKD has increased as the population has aged. It is now a common disease, but awareness toward CKD among physicians remains an issue. Understanding toward the criteria for specialist referral may be vague among some family doctors, and this can result in delays in referrals and allow symptoms to progress. A study titled [“Experience and Daily Burden of Patients with Chronic Kidney Disease Not Receiving Maintenance Dialysis or Renal Transplantation”](#) found that approximately 20% of patients waited more than 5 years before diagnosis.
- Expectations are high for actions that enable all physicians to provide the same standard of care. This may include educational reform at medical schools and further efforts to spread awareness so family doctors (and internists in particular) can acquire the basic knowledge and skills for managing CKD.
- One good example of an effort to build awareness toward CKD among family doctors of all specialties and help them provide proper CKD treatment has emerged in the form of a certification program that provides training on kidney disease. Physicians who complete the program are certified as “Cooperating CKD Control Physicians.” Another good example comes in the form of a dual primary physician system in which more robust cooperative care is provided by family doctors who have trained with specialists.
- An academic society has issued guidelines titled [“Evidence-based Clinical Practice Guideline for CKD.”](#)⁶ However, these guidelines contain a great volume of content, making them difficult to disseminate among family doctors. In the area of diabetes, in addition to clinical practice guidelines, the Japan Medical Association has compiled a comprehensive, easy-to-understand document titled, [“The Essentials of Diabetes Treatment.”](#) That document has been broadly distributed among family doctors and other physicians and is helping to improve awareness and treatment. Expectations are high for similar materials to be prepared in the field of kidney disease so more family doctors can be educated in this area.

➤ **Overcoming the shortage of nephrologists by utilizing Information and Communication Technology (ICT), establishing regional care networks, and utilizing paramedics**

- Nephrologist shortages have become serious in certain regions. The use of ICT and the establishment of regional care networks should be examined as potential methods of addressing this issue. A model project that aims to establish one such network in Gifu Prefecture is currently underway. Multiple regions have been designated within the prefecture, and each has its own medical association and specialist. Together, these associations and specialists serve as hubs for cooperation with local family doctors and play central roles in CKD control.
- Regarding the use of ICT, expectations are high for the further expansion and firm establishment of online medical examinations conducted with a family doctor present, namely Doctor to Patient with Doctor (D to P with D) and Doctor to Patient with Nurse (D to P with N) examinations.

⁶ Japanese Society of Nephrology. “Evidence-based Clinical Practice Guideline for CKD 2018.” While the 2023 revision of these guidelines is the most recent version, the full text of the 2023 revision was unavailable online at the time these recommendations were compiled. The version linked is the 2018 revision.

- To help compensate for nephrologist shortages and to provide more robust healthcare, there are also high expectations for the training and certification of more Kidney Disease Treatment Advisors. However, a cross-cutting perspective is necessary when working to advance countermeasures for CKD and other lifestyle-related diseases. For lifestyle diseases, the Treatment Advisor certification system for paramedics is currently categorized by disease. The types include Diabetes Treatment Advisors, Cardiovascular Disease Preventive Care Advisors, Heart Failure Treatment Advisors, and Kidney Disease Treatment Advisors. Similar content is used to train each type and includes items like sodium reduction, weight loss, and exercise. Furthermore, acquiring and renewing each certification costs paramedics significant amounts of time, effort, and money. These certifications should be unified into a single “Lifestyle Disease Treatment Advisor” certification. Another option may be to introduce a two-tiered structure for certification similar to the system used for physicians and specialist physicians. The first tier could be “Lifestyle Disease Treatment Advisors” while the second tier could consist of additional certifications specializing in specific areas like kidney disease, diabetes, or cardiovascular disease prevention. Regardless of which option is selected, the central Government and all academic societies should reconsider how to structure the certification system to enable paramedics – a limited human medical resource – to provide more robust care across diseases to meet patient needs in community health facilities like clinics and long-term care facilities.

Recommendation 4: Achieve integrated treatment through systems that enable collaboration among specialists in kidney disease, diabetes, and other fields at core hospitals and central health institutions and that allow for the early detection of CKD patients among people being treated in other departments.

Discussions on CKD control currently tend to be centered around expanding the roles of family doctors or promoting referrals from family doctors to specialists. However, after connections to specialists are created, a system must be established to provide early detection and intervention for CKD patients through collaboration among specialists or through medical examinations conducted in other departments, particularly at core hospitals and central health institutions that provide communities with advanced care across multiple departments. It must also be noted that for hospitalizations, the Diagnosis Procedure Combination (DPC) system only allows for one disease and one treatment to be registered per major diagnosis. This creates hurdles for collaboration among medical specialties.

Facts, challenges, backgrounds, and other factors related to recommendation

- **Establishing an environment to promote examinations for people with CKD and comorbid health conditions at multiple medical departments**
 - People with diabetic nephropathy are often examined by diabetologists, but they should also have regular interventions from nephrologists when necessary so they can be provided with comprehensive treatment. Conversely, people who are being treated by nephrologists also require examinations from diabetologists, so steps should be taken to reinforce collaboration among these specialists.
 - As the number of people with cancer increases and pharmaceuticals diversify, there is growing demand for onconeurology, which is the management of cancer that occurs in people with kidney disease or of kidney disease that occurs in people with cancer. Steps must be taken to further disseminate onconeurology through lectures and other activities both inside and outside of hospitals. To improve outcomes and facilitate treatment, it will also be necessary for hospitals to establish outpatient onconeurology departments and receive cancer patients with kidney disease.
- **Achieving early detection and intervention for people with CKD who are being treated in departments other than those for nephrology and diabetes**
 - A certain number of people undergoing treatment outside of nephrology and diabetes departments have undiagnosed comorbid CKD, so systems for early CKD detection in hospitals must be established. In one good example, many patients with CKD were able to be detected by implementing a rule in which nurses, medical clerks, and other members of staff included instructions to see a nephrologist in medical records for patients whose eGFR was less than 50 two times in a row. Activities from paramedics can make it possible to identify eligible patients more thoroughly.
 - Expectations are high for the future establishment of a system that uses AI to examine test values in electronic medical record data to identify people suspected of having CKD, that encourages patients to seek examinations in other departments, or that promotes collaboration among hospitals and clinics. However, at the moment, the use of AI should take place with a physician in charge, and ethical issues or legal frameworks must also be considered in the future.

Recommendation 5: Promote community CKD measures through the activities of health professionals such as physicians, nurses, pharmacists, national registered dietitians, and public health nurses undertaken in their respective roles, establish systems for multidisciplinary cooperation that include local governments and the patient community, and promote comprehensive and cross-cutting countermeasures that target CKD and other lifestyle diseases.

There are high expectations for physicians, nurses, pharmacists, dietitians, public health nurses, and all other local specialists to fulfill roles in measures for CKD and lifestyle diseases overall. Establishing face-to-face relationships of trust with specialists in their communities makes people want to follow their guidance or recommendations for treatment. This is effective at helping people continue attending medical examinations and adopt lifestyle improvements that delay or halt the progression of their condition.

Furthermore, to promote CKD and lifestyle disease control, early detection and intervention, and the prevention of severe complications in each phase of family doctors' and specialists' health checkups and examinations in a more integrated, effective manner, it will be necessary to establish collaborative systems in both study groups for disease control and similar bodies as well as in clinical settings. Said collaboration should include multidisciplinary professionals, professional associations, local governments, and the patient community that includes patients and other affected parties.

Future steps should also be taken to encourage the use of ICT and collaboration on health data to improve health checkup and medical examination attendance rates as well as to promote hospital-clinic collaboration.

Facts, challenges, backgrounds, and other factors related to recommendation

➤ **Physicians: Implement cross-cutting CKD and lifestyle disease countermeasures in communities through multidisciplinary collaboration led by family doctors and medical associations**

Lifestyle diseases require long-term treatments and improvements in daily habits and are often accompanied by comorbidities, so promoting cross-cutting measures that surpass the boundaries among medical departments and specialties will be effective for lifestyle disease control. This will require family doctors and medical associations to take up leadership from a broad overhead perspective and work with the government, pharmacists, national registered dietitians, and paramedics and paramedics' associations to optimize measures for lifestyle disease control overall.

➤ **Public health nurses: Utilize public health nurses' activities to create cooperative systems with local governments and healthcare professionals**

- In one good example, public health nurses visited local healthcare professionals door-to-door to raise awareness toward CKD as well as approached the government to cooperate. Those efforts bore fruit in the form of a robust collaborative network among the municipal government and healthcare professionals.
- Providing opportunities for public health nurses in communities to learn from each other, produce best practices for lifestyle disease control, and engage in mutual learning is contributing to better health for entire communities. In Kumamoto City, officials from the local government who are working on lifestyle disease control are meeting with health professionals four to five times per year to share information on countermeasures being taken in each district. These information-sharing opportunities are allowing public health nurses in each district to learn best practices from each district and have created a

climate where participants hone each other's skills to improve circumstances for lifestyle diseases in their respective districts.

➤ **Pharmacists: Visualize CKD in drug history handbooks and provide guidance on better dietary and lifestyle habits**

One way to communicate that a patient has CKD to patients, pharmacists, and physicians is to place CKD stickers in their drug history handbooks that show the stage of their disease. Doing so can help lead to treatment, guidance, or consultations that correspond to the patient's condition. Other effective ways for pharmacists who are close to patients can help are by providing guidance on improving dietary and lifestyle habits or by referring patients to national registered dietitians.

➤ **National registered dietitians: Ensure nutritional guidance goes uninterrupted by filling in gaps where dietitians are not present through community collaboration**

While people can receive nutritional guidance from national registered dietitians at core hospitals and central health institutions, they cannot continue doing so after being referred back to family doctors because no national registered dietitians are present. A system providing seamless nutritional guidance from both national registered dietitians as well as from other qualified professionals like Kidney Disease Treatment Advisors and that makes effective use of nutrition care stations must be established to ensure people can continue receiving guidance and prevent CKD from progressing.

➤ **Patient associations: Support patient decision-making and patient community efforts for preventing advanced disease**

- Support from patient organizations and peer support can help patients face their disease for the first time, but such support does not reach all patients. Involvement, information, and peer support provided by patient associations and patient advocate communities in a manner that is close to the patients themselves can be effective for preventing their conditions from worsening. We should also consider how to best structure patient support in Japan and give further consideration to other options. For example, in the United States, the University of Alabama has expanded support by hiring "Lay Navigators," which are citizens trained by health professionals to help patients with decision making.
- Dialysis patients do not have to center their entire lives around dialysis. When considering CKD control measures, it is important to promote measures that take into account physical, social, and economic wellbeing for various people, from those with suspected CKD to those receiving dialysis.

➤ **Linking and leveraging data for the early detection of CKD and for providing patients with continuous interventions**

- Utilization of the National Database of Health Insurance Claims and Specific Health Checkups of Japan (NBD), Personal Health Records (PHRs), and Electronic Health Records (EHRs) should be expanded to improve health checkup attendance rates, to provide recommendations for examinations at health institutions, and to promote cooperation among hospitals and clinics.
- To enable smoother collaboration among family doctors and specialists, in one example, a local government and its councils are publicizing which health institutions can accept CKD patients by listing eligible health institutions and family doctors certified as "Cooperating CKD Control Physicians" on their websites. In another example, when engaging in

March,2024



hospital-clinic collaboration, specialists share test data, progress, and other information on the electronic terminals of both family doctors and patients to facilitate communication during medical examinations.

Recommendation 6: After clearly defining the roles of prefectures and municipalities, each municipality should promote CKD measures together with those for diabetes and other lifestyle diseases. Introduce indicators for interim appraisal other than number of new dialysis patients and repeatedly apply an effective Plan Do Check Action (PDCA) cycle to CKD control measures.

With no strong legislation or other framework set by the central Government, the key to promoting CKD control will be implementing measures at the prefectural and municipal level. Each prefectural and municipal government should clearly define its role and divide duties before advancing collaborative efforts in areas where there is overlap, such as diabetes. In the future, the addition of performance indicators other than number of new dialysis patients to interim evaluations for CKD measures should be considered and better improvements to municipal CKD measures must be made through repeated application of the PDCA cycle. Furthermore, as the population ages, the number of people living with CKDs is increasing, so the central Government should expand budgets for CKD measures accordingly.

➤ **The roles of prefectural governments, municipal governments, and health centers and cross-cutting collaboration across fields of disease within each municipality**

- There are many examples in which efforts among prefectural and municipal governments to collaborate on disease control are unable to make progress because the division of duties between the two parties is not properly defined. Prefectural initiatives are oftentimes highly influential on the progress of disease countermeasures in each municipality, and expectations are high for leadership from prefectural governments in CKD control, as well. Prefectural governments should engage in collaboration after limiting their roles to setting overall policies, visualizing results, and comparing conditions among municipalities, while entrusting items such as the implementation of specific policies to municipal governments.
- The Community Health Act obligates certain municipalities to establish health centers which are granted the authority to set their own policy priorities independent of what is determined by prefectural governments. Cooperating with health centers will be important in promoting CKD control.
- There are many points in common among the necessary countermeasures for both diabetes and CKD, so effective, cross-cutting control measures should be promoted within local governments, particularly within prefectural governments where collaboration is not common. Diabetes was recognized as a major disease in Japan much earlier than CKD – since around the 1960s – and many local governments have been working on diabetes control for many years. While ensuring measures for CKD control maintain their independence in recognition of the fact that they are to be tailored to the circumstances or characteristics of the municipality, it will be necessary to implement measures for CKD in parallel to those for diabetes. Achieving this will require unifying countermeasures and engaging in collaboration that surpasses the responsible departments in each area.

➤ **Indicators other than number of new dialysis patients for use in interim evaluations of local governments' CKD measures**

Currently, many local governments use the number of new dialysis patients as an indicator for evaluating CKD measures, but some officials feel that this indicator is insufficient and are seeking other indicators or evaluation methods to use during interim evaluations. Given this need, we present the following items as potential indicators for CKD measures. These items were identified by specialists or emerged from best practices from local governments and are likely to be considered as evaluation indicators by other local governments in the future.

- ✓ Evaluating kidney function for a population by tracking changes in eGFR values
- ✓ Number of health institutions participating in CKD control programs
- ✓ Number of recommendations for medical examination at health institutions provided by insurers
- ✓ Number of patients who visit health institutions after receiving recommendations for medical examination from insurers
- ✓ Number of Cooperating CKD Control Physicians, number of references to nephrologists provided, and number of reverse referrals

➤ **Expanding the CKD budget at the central Government**

The progression of CKD can be slowed or halted and CKD countermeasures are growing more important, but the central Government's budget for CKD control is insufficient. After considering the linkages between the heart, the kidney, and metabolism, which are related to pathologies for cardiovascular diseases, diabetes, and kidney disease, the central Government should reexamine the budget allocated to CKD control and expand it.

Part II: Best Practices from Local Governments

1. Best practices from local governments: Methods of collection and background

To understand circumstances in local governments where measures for CKD control are currently advancing, in August and September 2023, HGPI held interviews with health professionals and local government officials responsible for departments like health promotion at prefectural and municipal governments that have developed best practices. Interviews were conducted with eight local governments: Gifu Prefecture; Chiba Prefecture; Nagasaki Prefecture; Yamanashi Prefecture; Okayama City, Okayama Prefecture; Kumamoto City, Kumamoto Prefecture; Takasaki City, Gunma Prefecture; and Nagasaki City, Nagasaki Prefecture. Interviews were also conducted with four specialists who serve as both medical professionals and as members of academia (for specifics regarding collaborators, please see their entries in the best practice compilation below). They provided us with information on initiatives in: Asahi City, Chiba Prefecture; Minato City, Tokyo; Matsumoto City, Nagano Prefecture; and Sado City, Niigata Prefecture. At many local governments, measures for CKD are limited to general awareness-raising. We conducted desk research to examine CKD measures throughout Japan to select participants whose measures we considered to be more in-depth by involving collaboration with specialists or the implementation of cross-cutting measures for CKD and other diseases. During the selection process, we also took care to strike a good balance between the sizes of the local governments and to avoid placing too much focus on specific regions.

Unlike cancer and cardiovascular disease, in the area of CKD control, there is no system or legal framework such as a basic act that is backed by the strong influence of the central Government. As such, expectations are high for local governments to cross-reference best practices with other local governments and implement CKD control measures that are tailored to their communities. In addition to the content of CKD countermeasures, our interviews also emphasized steps that led to the measures being introduced, the organizations or people who provided leadership, challenges encountered along the way, and steps that led to success. HGPI then independently analyzed, organized, and compiled discussion points that were highlighted during the interviews so that administrative officials at local governments have an easy-to-reference, highly reproducible source to cross-reference when creating health plans and similar policies. The following section includes a general overview of the findings of our interviews as well as examples from each local government.

2. Summary of interviews on local governments' best practices

CKD control requires measures from various perspectives and positions, so we have arranged the content of the interviews into seven sections:

1. Raising awareness among the general public
2. Recommending health checkups and follow-up examinations
3. Hospital-clinic collaboration from family doctors to specialists
4. Community-wide cooperation across among multiple professions (paramedics) and other diseases
5. Human resource development for physicians and paramedics
6. Evaluating local governments' CKD measures
7. Challenges in promoting CKD control and countermeasures that warrant future attention

Below, we have summarized discussion points from the interviews overall from the seven angles described above.

1. Raising awareness among the general public

Many municipalities introduce awareness programs targeting the general public to serve as the gateway to CKD control. To raise public awareness toward CKD, some use World Kidney Day (which falls on the second Thursday in March), while others hold events like exhibitions and trivia games. There were also some examples of unique measures for situations where raising awareness in person is difficult. For example, some local governments are distributing urinalysis kits and leaflets to homes. They are also taking various steps to provide information on CKD. These include creating and distributing awareness building materials on the local government's homepage or social network profiles, or by hosting public lectures.

2. Recommending health checkups and follow-up examinations

In addition to urine protein tests, health checkups that include serum creatinine and eGFR tests can detect CKD in its early stages. Some local governments are reinforcing efforts to recommend secondary medical examinations based on the results of these tests, are creating and distributing tools for raising awareness, or are strengthening follow-up health guidance. They are also encouraging cooperation among local public health nurses, health institutions, insurers, and specialist physicians while providing a broad range of support that includes conducting educational activities on CKD and holding community seminars. Among challenges shared among local governments, many pointed out that attendance rates for follow-up medical examinations are low or that community members decline to receive health guidance.

3. Hospital-clinic collaboration from family doctors to specialists

Some local governments have set standards for identifying people with CKD and are encouraging family doctors to refer those people to nephrologists. During the selection and registration process for health institutions involved in hospital-clinic collaboration, one local government is confirming the presence of nephrologists on staff and is providing hospital information that is used to build regional collaboration networks among hospitals and clinics and that are tailored to each municipality. There are also some unique initiatives, such as: assigning certain areas as model areas, conducting training seminars on CKD, and engaging in awareness-raising activities through medical associations.

4. Community-wide cooperation across among multiple professions (paramedics) and other diseases

Discussions are advancing at some local governments through the activities of Kidney Disease Treatment Advisors or through discussions at Integrated Community Care Councils (which involve cross-cutting multidisciplinary collaboration with parties like local governments, nephrologists, diabetologists, family doctors, pharmacists, nurses, and dietitians). Some areas are facing difficulties in securing sufficient human resources in family medicine. For example, it is not always possible for family doctors' offices to have dietitians on staff. However, progress has been made in community-wide collaboration as well as in efforts to approach patients in municipalities that have established family pharmacies and nutrition care stations.

In the context of collaboration across fields of disease, some municipalities have established CKD subcommittees within Diabetic Nephropathy Aggravation Prevention Programs to facilitate the sharing of information, while others are fostering collaboration with measures for diabetes control by having diabetologists serving on Diabetes Control Committees participate on local Committees for the Promotion of CKD Control. There

were also examples in which measures for kidney disease control were incorporated into projects for lifestyle disease control, or where medical examination data is being used to identify people with untreated diabetic nephropathy or are at high risk of CKD and provide them with recommendations to seek medical examination. Generally speaking, local governments that were early to collaborate with academia and medical associations or other professional associations to establish committees and build local networks tended to have an easier time making progress in CKD control.

5. Human resource development for physicians and paramedics

In addition to training nephrologists, there are cases where family doctors with backgrounds in various specialties are being trained and certified as Cooperating CKD Control Physicians. Support for CKD control is being included among their required conditions for registration. This is helping address shortages in and the uneven distribution of specialists. Some local governments are taking the lead in efforts to deepen understanding toward disease prevention programs. These efforts include creating and distributing educational materials and videos to standardize the criteria family doctors use to refer patients to nephrologists and to build a common understanding toward collaboration methods, or working with medical associations to host workshops for family doctors. There are also programs where physicians are provided with training and certification as partners in hospital-clinic collaboration, or programs which train and certify paramedics as Kidney Disease Treatment Advisors.

6. Evaluating local governments' CKD measures

While the number of new dialysis patients is being used as a general evaluation indicator, many local governments would like to evaluate CKD measures at pre-dialysis stages and link findings to improvements. However, many feel that they have been unable to set evaluation indicators that are effective for this purpose. Meanwhile, some municipalities are tracking the number CKD stickers distributed and circumstances surrounding medical examinations at health institutions to monitor the effectiveness of their CKD countermeasures. Indicators that make it easier for citizens to directly feel changes have also been developed, such as those for grasping salt intake volume or recognizing changes in health.

7. Challenges in promoting CKD control and countermeasures that warrant future attention

Challenges facing efforts to advance measures for CKD control include limits on access to data outside of regional health insurance schemes and the difficulty of unifying standards and evaluation methods for CKD measures. There have also been cases in which hospitals and clinics were hesitant to collaborate. Other challenges that were identified included the lack of results and difficulty of maintaining initiatives. Expectations are particularly high for the development of evaluation indicators for the stages before dialysis is introduced as well as for cooperation from the central Government and academic societies to overcome challenges in collaboration.

3. Individual best practices

(Titles omitted; in Japanese syllabary order by prefecture and city)

3-1. Gifu Prefecture

Conditions surrounding CKD in Gifu Prefecture

- (Trends in dialysis incidence and prevalence: Number of chronic dialysis patients, number of new dialysis patients) In Gifu Prefecture, the number of chronic dialysis patients per million was 2484.2 in 2016 and 2682.8 in 2021, while the number of new dialysis patients was 616 in 2016 and 631 in 2021. (Source: “An overview of regular dialysis treatment in Japan,” The Japanese Society for Dialysis Therapy Statistical Survey Committee)
- (Primary disease) As of 2020, 38.4% of new dialysis patients had diabetic nephropathy and over half had non-diabetic nephropathy.
- (Regional characteristics) As of 2023, Gifu Prefecture had a total of 63 nephrologists. There is regional disparity in the number of specialists. (For example, Gifu City had 23 specialists and a population of approximately 390,000 people, while the Hida region had 1 specialist and a population of approximately 130,000 people.)

History of CKD control in Gifu Prefecture

- Gifu Prefecture began examining how to implement measures for CKD control in 2008 following the presentation of the national Government’s Kidney Disease Control Review Meeting report. Gifu Prefecture later became the secretariat for the national Government’s CKD prevention project when it was launched in 2010. Past efforts include formulating and distributing the Gifu Prefecture CKD Medical Collaboration Pass and the Gifu Prefecture Manual on Medical Collaboration for CKD. These efforts continued until 2017.
- Gifu Prefecture also established an endowed course at Gifu University aimed at developing human resources and regional measures for CKD control. The course was offered from 2015 to 2017.
- However, limited recognition toward and use of the CKD Medical Collaboration Pass and Manual on Medical Collaboration for CKD introduced in 2010 led to these initiatives being halted temporarily in 2017. They were later adopted as an MHLW FY2019 Model Project for the Establishment of Collaborative CKD Care Systems with the aim of achieving CKD control measures rooted in communities with cooperation from local medical associations. Gifu Prefecture participated in that model project from FY2019 to FY2021.
- The Gifu Prefectural Council for the Promotion of CKD Control was established in 2019 with Gifu Prefecture as secretariat. Ongoing efforts at that Council include raising awareness among residents of Gifu Prefecture, developing human resources, and establishing a system for cooperation with healthcare. When it was first established in 2019, the Council’s main focus was cooperation with healthcare, grasping current circumstances and challenges, and considering the ideal structure of collaborative measures with healthcare.
- To ensure steady progress in healthcare coordination, the Gifu Prefectural Working Group for Healthcare Coordination on CKD was established in the Gifu Medical Association in 2020. That Group is working to establish and promote best practices for cooperation among hospitals and clinics by clarifying treatment standards and establishing model regions.

Details of CKD measures in Gifu Prefecture

Outline of measures

- The Gifu Prefectural Council for the Promotion of CKD Control was established in 2019 to grasp current circumstances and to identify challenges for CKD measures in Gifu Prefecture, to set final targets, and to ensure measures for each fiscal year are enacted.
 - After its establishment in 2019, efforts at the Council began by examining measures for the early detection and diagnosis of CKD without subjective symptoms and for early

intervention and treatment. Its members included nephrologists, diabetologists, the Gifu Medical Association, the Gifu Prefecture Pharmaceutical Association, specialized dialysis nurses, insurers, public health nurses, national registered dietitians, and public health center staff.

- Starting in FY2023, the Council was joined by the Gifu Nursing Association, the Gifu Dietetic Association, and patient groups. Together, their discussions focus on how each member can implement CKD measures and cooperate with other members to expand CKD measures.
- Gifu Prefectural Working Group for Healthcare Coordination on CKD was established In FY2020 to create and distribute a cooperation manual and other materials that healthcare providers can use to work together on CKD control.
- Starting in FY2022, a model region for the promotion of medical cooperation was established and is being used to generate best practices.

Awareness-raising and education

- In addition to holding public lectures for residents of Gifu Prefecture on World Kidney Day, the prefectural government has prepared educational materials on preventing hypertension, one of the causes of kidney disease. Those materials are being distributed to residents through public health centers and municipal governments and to companies that have pledged to provide health management to employees.
- In cooperation with local pharmacists' associations, CKD stickers and eGFR graphs are being distributed by hospital pharmacists at five hospitals in the prefecture to people who are discharged. They are also working to gauge changes in awareness by interviewing people during guidance sessions at discharge or through awareness surveys distributed a number of months after discharge.

Initiatives related to recommending medical examinations after health checkups

- To facilitate coordination from health checkups to family doctors and from family doctors to specialists, the Gifu Prefectural Working Group for Healthcare Coordination on CKD was established in the Gifu Medical Association. It meets twice per year to examine recommendations for medical examination and continuous healthcare provision. In addition to nephrologists, diabetologists, representatives of local medical associations, and representatives of the Gifu prefectural government, the Working Group also includes family doctors from each area of Gifu Prefecture, who serve as local representatives.
- The Working Group is involved in a wide range of activities including clarifying the criteria for cooperation for guiding patients from specific health checkups to recommendations to visit health institutions for medical examinations; preparing and distributing manuals on collaborative CKD treatment; and holding seminars on regional collaboration on CKD for nephrologists, family doctors, pharmacist associations, and government agencies.

Hospital-clinic collaboration

To address challenges facing collaboration among hospitals and clinics, Gifu Prefecture established model regions in FY2022 and is now working to produce best practices.

- A total of four model regions were established: two that each have one medical association, one municipal government, and specialists; one that has one medical association, multiple municipal governments, and specialists; and one that has one medical association, multiple municipal governments, and no specialists. Project activities in each region are centered on family doctors.
- In the region with no specialist, the project will be advanced by establishing a system for collaboration between the community and family doctors from a prevention perspective while

considering methods of collaborating with specialists in other regions.

- While there are differences in progress among the regions, those that have made progress have started holding online review meetings that aim to ensure initiatives are advancing in accordance with conditions in each region, such as by ascertaining the number of referrals made from family doctors to specialists. Each region is set to present its results in FY2023.

Cooperation between the prefectural government and municipalities

- Explanatory meetings have been held since the project was launched. Gifu's seven prefectural health centers are advancing initiatives for the project while supporting municipal governments within their respective jurisdictions.
- The COVID-19 pandemic hindered interventions from Gifu's prefectural health centers during the first three years of the project, but they have been able to move forward by dividing roles with the Health and Medical Care Division at the prefectural government.
- The health centers are hosting collaborative meetings with local medical associations and municipal governments to share challenges facing their regions and to consider initiatives and measures that suit conditions in communities.

Cooperation across medical specialties

- A diabetologist who serves on the Diabetes Prevention Council is also a member in the Gifu Prefectural Council for the Promotion of CKD Control to ensure there is synergy with measures for diabetes control.
- The Gifu Prefectural Diabetic Nephropathy Aggravation Prevention Program also touches upon synergy with efforts for CKD, and the administration and family doctors are using methods of collaboration described in that program.
- It is desirable that criteria for CKD and related information is organized and recorded in the Gifu Prefectural Diabetic Nephropathy Aggravation Prevention Program. Aside from the coordination laid out in that program, a CKD coordination pathway has been drawn up and is currently being used as a shared tool by the prefectural government, municipal governments, and medical associations.
- Only one person at the prefectural government is responsible for lifestyle disease control measures and they are approaching physicians and other specialists with the intent to harmonize with measures in related areas such as diabetes and cardiovascular diseases. They have successfully achieved smooth collaboration with the area of diabetic kidney disease (DKD) and plan to pursue collaboration with the cardiovascular area in the future.

Developing human resources

Online training sessions for physicians and paramedics are being conducted.

Budget

Gifu Prefecture is using half of the Government subsidy and is proceeding with a conservative budget. They are progressing in a manner that allows them to maintain the program and produce results without making cuts.

Evaluating CKD control measures

- The only outcome indicator being used to evaluate CKD control measures is the number of new dialysis patients.
- In one ongoing government initiative in diabetes control, people whose HbA1c levels are 6.5% or above undergo screening to identify those who are eligible for intervention from a physician. Gifu Prefecture is currently examining how to adopt a similar scheme for CKD.
- The prefectural government has been tracking municipal initiatives for diabetes control

through the number of people eligible for intervention, the number of recommendations for medical examination provided, and the rate at which people undergo medical examinations at health facilities. However, the conditions surrounding those initiatives vary by municipality, making it difficult to conduct comparisons and evaluations in a uniform manner. To address this issue, starting in FY2023, Gifu Prefecture plans to also begin tracking intervention status, intervention method, and medical examination status for people who have undergone specific health checkups and whose HbA1c levels are 6.5% or above. These findings will then be used to review the program. Gifu Prefecture plans to apply these methods to CKD control as well.

Issues for promoting CKD control and measures to be considered in the future

Issues facing government recommendations for medical examination at family doctors

- Focusing on prevention, the government provides people with recommendations to seek medical examinations at their family doctors for medical case management. However, there are times when collaboration is delayed due to family doctors not being proactive about treating CKD. When patients are told that there is nothing wrong by their family doctors, it is difficult to convince them to follow recommendations from the government. This has hindered efforts to connect patients to health guidance.
- Some family doctors think that the referral criteria are too strict. It will also be necessary to consider the information and methods used to raise awareness among family doctors and patients.

Issues in coordination from family doctors to specialists

There is regional variation in the degree of coordination. In particular, from the viewpoint of specialists, family doctors are slow to refer patients to specialists.

Ensuring measures take root in communities

- While the national Government has allocated a budget for DKD control through National Health Insurance as part of the Health Up Program, no such budget has been set aside for CKD control. In some aspects, this makes it difficult for local governments to make progress.
- Gifu Prefecture believes that it will be necessary to provide health guidance to people who are not eligible for specific health guidance within the scope of specific health checkups.

Cooperation between employees' insurance and the government

It is difficult for local governments to provide interventions to people covered by employees' insurance, but some local governments have expressed a positive outlook toward such efforts. The challenge will be determining how insurers and the government should cooperate moving forward.

Multidisciplinary cooperation

While involving related professional associations and similar parties, Gifu Prefecture would like to establish a framework that will allow each organization to self-direct its own efforts.

Evaluation

Gifu Prefecture would like to include items like number of referrals and reverse referrals in evaluations, but for model areas where preparations to do so are at a standstill, Gifu Prefecture is working together with regional collaboration offices to ascertain the results of collaborative efforts. These evaluations are difficult to conduct due to the workloads and budgets at health institutions (or more specifically, their regional coordination offices), so methods of conducting those evaluations are currently being examined.

3-2. Chiba Prefecture

Conditions surrounding CKD in Chiba Prefecture

- (Trends in dialysis incidence and prevalence) In Chiba Prefecture, the number of chronic dialysis patients per million was 2376.0 in 2016 and 2583.1 in 2021, while the number of new dialysis patients was 1805 in 2016 and 1947 in 2021. (Source: “An overview of regular dialysis treatment in Japan,” The Japanese Society for Dialysis Therapy Statistical Survey Committee)
- (Primary disease) Diabetic nephropathy accounts for 40% of all new dialysis patients. The number of new dialysis patients whose primary disease is diabetic nephropathy has been decreasing since control efforts began in 2017.
- (Regional characteristics) As of 2023, Chiba Prefecture had a total of 201 nephrologists and 6.27 million residents. There are few specialists compared to the total population and Cooperating CKD Control Physicians serve as the cornerstone of the entire CKD care provision system.

History of CKD control in Chiba Prefecture

The Chiba Prefecture Diabetic Nephropathy Aggravation Prevention Program was launched in December 2017 by the Chiba Medical Association, the Chiba Council for Promotion of Countermeasures Against Diabetes, the Chiba Prefecture Insurers’ Council, the Chiba Prefecture Association for Diabetes Education and Care, and Chiba Prefectural Government. The Chiba Prefecture Severe CKD Prevention Subcommittee was established in November 2019, which also marked the start of efforts for the prevention of severe CKD.

Details of CKD measures in Chiba Prefecture

Outline of measures

- The Chiba Prefecture Diabetic Nephropathy Aggravation Prevention Program was introduced
- Cooperating CKD Control Physicians are being provided with training and certification under the leadership of the Chiba Medical Association

Awareness-raising and education

To ensure there is uniform understanding toward collaboration among family doctors and nephrologists and toward criteria for family doctors to use to refer patients to nephrologists, Chiba Prefecture is creating and distributing reference materials to raise awareness, producing videos related to CKD, and posting answers to common questions regarding CKD in a Q&A format.

Initiatives related to recommending medical examinations after health checkups

- Tools to raise awareness among people eligible for health guidance are being produced and distributed.
- Information is being prepared and distributed to educate family doctors on recommendations for medical examination for people undergoing outpatient treatment and referring patients who meet referral criteria to specialists.
- Using the Kokuho Data Base (KDB) system, the Chiba Prefecture Federation of National Health Insurance Societies is supporting efforts to identify patients who have dropped out of treatment and similar parties.

Hospital-clinic collaboration

- Criteria for the extraction of CKD are being defined and disseminated.
- A manual on providing medical information when referring patients to nephrologists has been created.
- A list of facilities registered as Chiba Prefecture Severe CKD Prevention Facilities that have nephrologists on staff has been published online and this information is being provided to

family doctors registered as Cooperating CKD Control Physicians.

Collaboration among specialists

Diabetologists and nephrologists in Chiba Prefecture are collaborating effectively by participating in review meetings or as committee members or observers across fields and are sharing information on a regular basis.

Collaboration with paramedics

Collaboration is advancing among family doctors and organizations like the Chiba Pharmaceutical Association and the Chiba Dietetic Association.

Cooperation with other medical specialties

- The CKD Subcommittee was one of the first subcommittees established at the Study Group for Diabetic Nephropathy Aggravation Prevention. That Study Group has been advancing measures for CKD control as part of the Chiba Prefecture Severe Diabetic Kidney Disease Prevention Program.
- Since it was first established, the aforementioned Study Group has included nephrologists. Their presence has enabled smooth progress in collaboration between the fields of diabetes and CKD.
- Since it first began taking measures for CKD control, the Chiba Prefectural Government has been receiving advice from nephrologists and has advanced with a recognition that measures for CKD and DKD should be taken in an integrated manner.

Developing human resources

- The Chiba Medical Association is playing a central role in training and certifying nephrologists as well as family doctors with backgrounds in various specialties as Cooperating CKD Control Physicians. There are two requirements for registration as a Cooperating CKD Control Physician: (1) complete the Online Course for Cooperating CKD Control Physicians and (2) agree to cooperate with items (a), (b), and (c), as follows. They are (a) to measure eGFR and urinary protein levels in accordance with the findings of health checkups; (b) to properly follow criteria for referring patients to nephrologists; and (c) to promote the utilization of the CKD sticker (by placing CKD stickers, responding to prescription questions and inquiries, etc.).
- Training seminars for health guidance providers are also being held.

Evaluating CKD control measures

- Chiba Prefecture is tracking the number of new dialysis patients per year.
- An evaluation program for the Chiba Prefecture Diabetic Nephropathy Aggravation Prevention Program was established. It evaluates program operations as described below.
 - Structure Evaluation
 - Have goals been set and have systems been established for collaboration and cooperation among medical associations and related organizations and with physicians, specialists, and other parties needed to carry out the program?
 - Process evaluation
 - After formulating the program, have related organizations been informed about or educated on the program?
 - Is information about measures from the prefectural government or efforts from insurers being shared among related parties?
 - Usage rates for diabetic data handbooks at health institutions providing treatment for diabetes (Survey on the Revision of the Chiba Prefecture Health and Medical Care Plan)

- Output evaluation
 - Number of insurers involved in the program and in preventing severe diabetic nephropathy (number of municipalities that have applied for the Insurer Initiatives Support System)
 - Number of healthcare facilities participating in the program
 - Number of CKD stickers distributed, number of prescription inquiries submitted to health facilities by pharmacies
 - Number of Cooperating CKD Control Physicians registered
 - Number of recommendations for medical examination submitted to healthcare facilities by insurers
 - Number of visits to healthcare facilities made after insurers provide recommendations for medical examination
 - Number of referrals and reverse referrals among Cooperating CKD Control Physicians and nephrologists
- Outcome evaluation
 - Number of new dialysis patients per year (due to diabetes and other causative diseases)
 - Treatment adherence rates (lifestyle questionnaire)
 - Percentage of untreated diabetes among people whose HbA1c level is 6.5% or with a fasting blood glucose of 126 mg/dl or higher and urinary protein (\pm) or higher (determined through analysis of data from specific health checkups and specific health guidance)
 - Healthcare expenses (determined with National Health Insurance Disease Statistics Tables)

Issues for promoting CKD control and measures to be considered in the future

- The government can only access data from people enrolled in National Health Insurance, meaning Social Insurance data is unavailable. In the context of healthcare, the insurance type is irrelevant, and this gap makes it difficult to identify methods of approaching all residents.
- Chiba Prefecture is struggling to determine which data to use to evaluate current initiatives, how to analyze that data, and how to present it effectively.
- A method of evaluating the program is included in the Chiba Prefecture Diabetic Nephropathy Aggravation Prevention Program, but Chiba Prefecture would like to examine if the items included in that evaluation are appropriate.

3-3. Nagasaki Prefecture

Conditions surrounding CKD in Nagasaki Prefecture

- (Trends in dialysis incidence and prevalence) In Nagasaki Prefecture, the number of chronic dialysis patients per million was 2924.7 in 2016 and 3155.0 in 2021, while the number of new dialysis patients was 462 in 2016 and 458 in 2021. (Source: "An overview of regular dialysis treatment in Japan," The Japanese Society for Dialysis Therapy Statistical Survey Committee)
- (Primary disease) Around 80% of chronic dialysis patients in Nagasaki Prefecture have DKD, making it the most common condition. However, as the population ages, nephrosclerosis is also on the rise.
- (Regional characteristics) In recent years, the number of new dialysis patients has remained steady at around 500 people and the total number of dialysis patients has increased slightly to around 4,000 people in 2020.

History of CKD control in Nagasaki Prefecture

In light of the circumstances described above, Nagasaki Prefecture has been implementing

measures for CKD control since around 2009.

Details of CKD measures in Nagasaki Prefecture

Outline of measures

Nagasaki Prefecture is implementing CKD control measures through a group called the Nagasaki Prefecture Investigative Committee on CKD and Diabetes. The group was established in FY2022 by merging the Investigative Committee on Diabetes (which previously existed as a separate entity) with the CKD Control Committee. It was established with smooth facilitation with the government under the leadership from medical specialists in CKD and diabetes in mind. The Investigative Committee on CKD and Diabetes works with various stakeholders like medical associations, university hospitals, clinics, pharmaceutical associations, dietetic associations, nursing associations, and health insurance societies.

Awareness-raising and education

In the Nagasaki Prefecture Severe DKD Prevention Program, people identified as being at high risk are provided with health guidance after consent is obtained from the individual in question and their family doctor. Among eligible cases where this consent is not obtained, approximately 50% of refusals come from the patients themselves while approximately 20% come from family doctors. For around the past three years, Nagasaki Prefecture has been hosting training seminars for family doctors and related parties where participants are asked to cooperate with the Nagasaki Prefecture Severe DKD Prevention Program. This has improved the rate at which family doctors decline to consent to health guidance from 30% in the past to 20% today.

Initiatives related to recommending medical examinations after health checkups

As part of DKD control, Nagasaki Prefecture is providing recommendations to seek medical examinations to people who have not undergone a medical examination at a health institution or who have dropped out of treatment. People who are unable to effectively control their conditions are provided with health guidance. As a result, among those eligible for recommendations for medical examination, 90% were provided with recommendations and 70% of them have undergone examinations.

Cooperation with other medical specialties

Departments responsible for each disease within the Nagasaki Prefectural Government are engaging in cross-cutting collaboration and are making conscious efforts to share information.

Developing human resources

Every year, Nagasaki Prefecture and Nagasaki National Health Insurance Associations jointly host the Nagasaki Prefecture Severe Diabetic Nephropathy Prevention Seminar. It is for representatives from municipal governments, prefectural health centers, and the Nagasaki Prefectural Association of Medical Care Services for Older Senior Citizens and covers topics like methods of providing health guidance. Almost all of the 21 municipalities in Nagasaki Prefecture participate in the seminar.

Evaluating CKD control measures

Evaluations are conducted in accordance with what is described by the Nagasaki Prefecture Medical Care Plan.

- Nagasaki Prefecture has set a target attendance rate for specific health checkups of 70% or higher. (In 2023, the attendance rate was 46.1%.)
- Nagasaki Prefecture has set a target rate for CKD sticker dissemination of 60% or higher. (This rate is determined by surveying pharmacies visited by patients with CKD stickers.)
- Nagasaki Prefecture also tracks the number of new dialysis patients, the total number of

dialysis patients, and the number of people living with each type of kidney disease (kidney failure, nephrosclerosis, etc.).

Issues for promoting CKD control and measures to be considered in the future

- Nagasaki Prefecture has been engaged in CKD control for over a decade but has yet to produce significant results. Their current thinking is that further measures must be examined.
- A pamphlet on cooperation among hospitals and clinics is being distributed to municipal governments and health facilities to serve as a tool to define standards.
- When patients do not consent to health guidance, their family doctors cannot provide strong encouragement to do so out of concern toward their relationship. Diligent efforts to obtain consent from both family doctors and the patients themselves will be necessary.
- Even when patients meet the criteria for examination from a nephrologist, it can be difficult for family doctors to encourage patients to visit nephrologists if they are located far away. There are also times in which there is no follow-up with family doctors even after a patient has been referred to a nephrologist. Situations like these are hindering hospital-clinic collaboration or are causing related parties to feel hesitant to collaborate.
- Even when patients attend examinations at health facilities based on the results of a health checkup, there are cases in which physicians tell them there is nothing wrong, causing treatment to be interrupted. It will be important to disseminate the latest treatment guidelines to address this.

3-4. Yamanashi Prefecture

Conditions surrounding CKD in Yamanashi Prefecture

- (Trends in dialysis incidence and prevalence) While the rate of chronic dialysis in Yamanashi Prefecture was 50.7% in 2011, it trended downward to 37.9% in 2021, placing it slightly below the national average chronic dialysis rate of 40.2% (as of 2021). The number of new dialysis patients in Yamanashi Prefecture has varied slightly but remained mostly stable, decreasing from 323 people in 2010 to 310 people in 2020.
- (Primary disease) As of 2020, nephrosclerosis accounted for 19.6% of all cases of dialysis incidence while DKD accounted for 38.9%. Diabetes is the primary disease for a high proportion of patients.

History of CKD control in Yamanashi Prefecture

- In 2010, the ratio of people with DKD as the primary disease in Yamanashi Prefecture was the highest in Japan at 17.3 per 100,000 population.
- Yamanashi Prefecture recognized the importance of CKD control amidst the active promotion of such efforts from the national Government. With efforts centered on nephrologists from the University of Yamanashi, the prefecture is now working to address this issue together with Yamanashi Medical Association.

Details of CKD measures in Yamanashi Prefecture (Initiatives up until FY2022)

Outline of measures

- Yamanashi Prefecture launched the Yamanashi CKD Prevention Promotion Project in 2015.
- In 2018, a collaborative agreement to promote local initiatives for the prevention of severe diabetic nephropathy called the Yamanashi Prefecture Partnership Agreement on Diabetic Nephropathy Aggravation Prevention was endorsed by the Yamanashi Medical Association, the Yamanashi Diabetes Prevention Committee, the Yamanashi CKD Prevention Promotion Committee, and Yamanashi Prefecture.
- A Diabetic Nephropathy Aggravation Prevention Program is being advanced together with measures for CKD control.

Efforts to reinforce prevention promotion systems

Yamanashi Prefecture has established an effective system for promoting the prevention of kidney disease by hosting meetings of the Yamanashi Prefectural Council on Measures to Promote the Prevention of CKD to create discussion opportunities for various parties. Participants include medical and dental associations, pharmaceutical associations, nursing associations, dietetic associations, insurers, facilities providing medical examinations, and public health centers.

Dissemination and awareness raising

- Yamanashi Prefecture is disseminating information related to CKD on its website. This information includes an overview of CKD and links to useful information on prevention.
- The Yamanashi CKD Control Committee has produced and publicized videos, posters, and leaflets to raise awareness.

Initiatives related to recommending medical examinations after health checkups

- Insurers and family doctors are collaborating on health guidance. Insurers contact eligible people and report the content of the guidance while family doctors provide information and advice regarding health guidance.
- One initiative aims to build a collaborative system that will enable insurers to consult specialists and allow specialists to provide information and advice on health guidance to insurers.
- In addition to the existing referral criteria for CKD, criteria for issuing recommendations for medical examination after health checkups are linked to those for diabetes (e. g. failure to achieve a blood glucose control target of HbA1c level of below 8.0% for 3 months or more).

Hospital-clinic collaboration

- In addition to setting criteria for referrals, nephrologists at facilities engaging in hospital-clinic collaboration are defining numerical criteria so physicians at clinics can know when to refer patients back to the nephrologist. This information is recorded on the “re-referral check sheet” and is delivered to the collaborating physician.
- To foster hospital-clinic collaboration and to expand the referral/reverse referral system from family doctors to specialists and from specialists back to family doctors, “Physicians Involved in Hospital-Clinic Collaboration on CKD” are being jointly certified by the governor of Yamanashi Prefecture and the president of the Yamanashi Medical Association.
 - Workshops are held for certified collaborating physicians once every two years. Those workshops cover information on CKD, how recommendations for medical examination are provided, and how to refer patients to specialists.
 - A list of collaborating physicians and collaboration standards are published on the Yamanashi Prefecture website to be used for practices like health checkups and recommendations to seek medical examination.

In order to provide appropriate referrals to specialists, family doctors confirm CKD-related criteria for referring patients to nephrologists as well as the criteria for providing referrals to diabetologists.

Cooperation between the prefectural government and municipalities

Yamanashi Prefecture is relatively small with one university hospital, one prefectural hospital, and four health and welfare offices (public health centers), so the entire prefecture has been able to work together on advancing overall health policy.

Collaboration with workplaces

Clinics in Yamanashi Prefecture have been selected to take part in the MHLW's Model Project for the Establishment of a Treatment System and Multidisciplinary Collaboration for Severe CKD Prevention, which targets the working-age population. Plans are in place to carry out this project together with private companies and occupational health physicians.

Developing human resources

In Yamanashi Prefecture, workshops to improve CKD-related skills among all healthcare professionals (including physicians, nurses, and paramedics) are being held in all municipalities.

Evaluating CKD control measures

- The government is conducting annual surveys among healthcare facilities to track the number of new dialysis patients and the number of consultations with specialists.
- The number of physicians participating in training seminars on hospital-clinic collaboration is also being tracked.

Issues for promoting CKD control and measures to be considered in the future

- Yamanashi Prefecture currently has no outcome indicators other than number of new dialysis patients and is examining methods of evaluating the effectiveness of current initiatives.
- The difficulty of coordinating National Health Insurance and employees' insurance is hindering efforts to approach people of working age. It is especially difficult to encourage workers to undergo health checkups or to provide them with recommendations for medical examination. Yamanashi Prefecture is examining how to best encourage changes in attitudes and behaviors among employers and individuals.

3-5. Okayama City, Okayama Prefecture

Conditions surrounding CKD in Okayama Prefecture

- (Trends in dialysis incidence and prevalence) In Okayama Prefecture, the number of chronic dialysis patients per million was 2619.8 in 2016 and 2918.4 in 2021, while the number of new dialysis patients was 584 in 2016 and 644 in 2021. (Source: "An overview of regular dialysis treatment in Japan," The Japanese Society for Dialysis Therapy Statistical Survey Committee)
- (Primary disease) In order, the most common conditions among dialysis patients in Okayama Prefecture are hypertension, dyslipidemia, and diabetes, and the proportion of patients with diabetic nephropathy is increasing yearly.

History of CKD control in Okayama City

Recognizing that chronic kidney failure that requires dialysis can require expensive treatments over long periods of time and can interfere with daily life, Okayama City launched initiatives centered on halting the progression of CKD, which is a condition that progresses without subjective symptoms. Okayama City aims to provide early interventions for people with pre-diabetic lifestyle diseases but who are not obese and therefore are ineligible for specific health guidance. Their initiatives also include recommending medical examinations to people who have not attended health checkups and who are at risk of diabetic nephropathy or other diseases but have discontinued treatment or who are going untreated.

Details of CKD measures in Okayama City

Outline of measures

Okayama City has introduced initiatives for the prevention of severe CKD and diabetic nephropathy which provide follow-up health guidance, recommendations for medical consultation, and in-home preventive care visits.

Awareness-raising and education

Okayama University, Okayama City, and their partners co-host events on World Kidney Day in March. They are led by Okayama University, which distributes goods meant to raise awareness and includes attractions like a trivia event and an exhibition.

Initiatives related to recommending medical examinations after health checkups

- People whose test results are in the target range after specific health checkups are provided with recommendations to receive medical examinations. As for efforts undertaken for the prevention of severe diabetic nephropathy, healthcare facilities measure albuminuria in accordance with the Okayama Severe Diabetic Nephropathy Prevention Program, which has established a system for sharing those results with the city. The albuminuria data gathered in that program and the list of people who are eligible for recommendations for medical examination are submitted through the National Health Insurance Federation. Data analysis is conducted at Okayama University.
- Follow-up health guidance is being provided to people whose specific health checkup results for kidney function, blood pressure, blood glucose, lipids, or uric acid levels show they are at risk.
- Based on specific health checkup results, people whose blood pressure, blood glucose, and lipid test values are in the target range and people who may have impaired kidney function are provided with recommendations for medical examination. Health counseling is also being provided to those who want it.
- People whose specific health checkups find they may develop even more severe conditions due to overlapping concerns like decreased kidney function with blood pressure- or blood glucose-related risks are visited by public health nurses from their district. During those visits, the public health nurses provide information, health consultations, and care guidance to connect at-risk individuals to proper treatment.

Issues for promoting CKD control and measures to be considered in the future

Low uptake of specific health checkups within Okayama City National Health Insurance means that health issues among the insured are not fully understood. Furthermore, among people whose specific health checkups find that they require specific health guidance or treatment, there are many cases that end up going unaddressed through actions like utilizing specific health guidance or attending medical examinations at health institutions. Such cases may face a higher risk of progressing. To address these challenges, effective measures must be taken for specific health checkups, specific health guidance, and recommendations that people attend the necessary medical examinations at healthcare facilities.

3-6. Kumamoto City, Kumamoto Prefecture

Conditions surrounding CKD in Kumamoto Prefecture

- (Trends in dialysis incidence and prevalence) In Kumamoto Prefecture, the number of chronic dialysis patients per million was 3646.6 in 2016 and 3817.1 in 2021, while the number of new dialysis patients was 557 in 2016 and 492 in 2021. (Source: “An overview of regular dialysis treatment in Japan,” The Japanese Society for Dialysis Therapy Statistical Survey Committee)
- (Primary disease) The most common primary disease for CKD is diabetes. Blood glucose, HbA1c, and serum creatinine levels are higher than national averages.
- (Regional characteristics) The percentage of new dialysis patients was among the highest in the country. While this number declined steadily from FY2009 to FY2015, it has been trending upward, in part due to population aging.

History of CKD control in Kumamoto City

- While Kumamoto City launched a diabetes prevention program in 2004, it had difficulty making progress. In 2008, a public health nurse had the opportunity to learn about the concept of CKD and felt the need to reintroduce measures to address diabetes and other lifestyle diseases that lead to dialysis. This led them to examine measures for CKD control.
- At the time, the percentage of people on dialysis in Kumamoto City was 1.4 times the national average. Given this situation, they visited almost fifty specialists, medical and other professional associations, health and welfare centers, ward offices, and similar parties to provide a detailed explanation of the issue and to make thorough preparations to launch a CKD control project.
- Initiatives based on the concept of CKD and for addressing dialysis began after the MHLW Kidney Disease Control Review Meeting presented its report titled, “The Future of Kidney Disease Control” in 2008. In Kumamoto Prefecture, it became apparent that family doctors were referring patients to nephrologists only after their condition had already progressed, despite the need to refer people before Stage 3 CKD. In other words, people with reduced kidney function were not being sent to nephrologists at early stages.

Details of CKD measures in Kumamoto City

Outline of measures

- From the perspective of maintaining QOL for citizens, Kumamoto City is working with the Kumamoto City Medical Association, nephrologists, and related organizations to mount comprehensive efforts to prevent CKD onset and progression using both a population approach and a high-risk approach under the four pillars described below.
 - Based on results obtained from specific health checkups conducted under Kumamoto City National Health Insurance, Kumamoto City is providing classes on CKD prevention and health guidance to people with moderately impaired kidney function to help prevent CKD onset and control its progression. The city is also providing health promotion support through ICT.
 - Kumamoto City has taken a number of measures to help people halt CKD progression. These include establishing a registration system for Physicians Involved in Hospital-Clinic Collaboration on CKD; the creation and operation of a system for hospital-clinic collaboration; providing recommendations for medical examination to people who require care; and building a system for family doctors and dieticians to collaborate on nutrition.
 - To develop a system for promoting CKD control, Kumamoto City has established a CKD Control Promotion Council with 90 organizations and institutions and is collaborating with each related organization.
- As part of efforts to halt CKD progression, Kumamoto City has established and is operating a “Nutrition Collaboration System” as well as a “Hospital-Clinic Collaboration System for CKD” in which physicians involved in hospital-clinic collaboration on CKD and nephrologists serve as two-person primary physician teams. The cornerstone of this measure is joint awareness-raising activities held with related organizations.

Awareness-raising and education

- Community development efforts themed on health promotion are being conducted in each elementary school district. Social networks and advertisements on buses and trains are being utilized to raise awareness.
- Kumamoto City is encouraging people to attend specific health checkups by holding awareness-raising events and other events.

Initiatives related to recommending medical examinations after health checkups

- When a family doctor registers their facility, a public health nurse conducts a thorough

investigation of circumstances in their community and educates the family doctors using specific indicators. This was recognized as a downside to becoming a registered physician. Consensus was reached while holding seminars on CKD collaboration at five health and welfare centers (which included an introduction of the initiative, monitoring and reporting analysis results, introductions of case studies, and opinion exchanges).

- Early on, some were concerned that family doctors' patients would end up switching to specialists. Repeated explanations were given to family doctors that the number of nephrologists is limited and that focus would be placed on returning patients to the community.
- Serum creatinine tests were added to the specific health checkups at the start of the initiative and effort is being devoted to early detection. Kumamoto City has also been getting in touch with people by mail or over the phone to encourage those who have not attended the necessary medical examinations to do so.

Hospital-clinic collaboration

- Starting in FY2008, nephrologists, metabolic specialists, and Kumamoto City Medical Association have been holding meetings of the CKD Hospital and Clinic Collaboration Project to reinforce collaboration among family doctors and nephrologists. At those meetings, participants established criteria for family doctors to use when referring patients to nephrologists, created referral contact sheets, and discussed other topics related to promoting collaboration to build a system for hospital-clinic collaboration.
- Members of the CKD Hospital and Clinic Collaboration Project Committee hold regular seminars on the hospital-clinic collaboration system to help family doctors better understand CKD control and referral criteria as well as to build face-to-face relationships among family doctors and nephrologists.

Collaboration with paramedics

Some family doctors do not have a dietician on staff, so their ability to provide appropriate guidance that is tailored to individual patients is limited. To address this issue, a "Nutrition Collaboration System" was established together with the Kumamoto City Medical Association and Kumamoto Dietetic Association to provide nutritional guidance at family health facilities to help prevent lifestyle diseases.

Collaboration with internal and external organizations and people

When establishing relationships among physicians, Cooperating CKD Control Physicians, and each related institution and organization as part of building its system to promote CKD control, Kumamoto City has produced a framework for exchanging opinions on and the content of efforts for CKD control by linking the two meetings described below.

- The CKD Control Promotion Council: This Council is led by the mayor of Kumamoto City and includes 90 organizations such as medical associations, university nephrology departments, partnered hospitals, community organizations, and private pharmaceutical companies.
- The CKD Hospital and Clinic Collaboration Project: This nine-member project includes specialists from core hospitals, university nephrologists, directors of the Kumamoto City Medical Association, and medical practitioners specializing in diabetes mellitus. Activities from this project include establishing referral and reverse referral systems, fostering relationships between specialists and registered family doctors, assessing the effectiveness of CKD control measures introduced in the project, and confirming the direction of measures.

Securing the budget

CKD control was recognized as a high-priority item and allocated a budget after an internal

presentation from the then-Director of the Health and Welfare Bureau to relevant sections of the Bureau. That presentation included specific cost-benefit estimates (for items like reduction in number of patients and the reduction in healthcare expenses) to show that reducing the number of people on dialysis was a major health issue for Kumamoto City.

Evaluating CKD control measures

CKD control measures are evaluated using the number of new dialysis patients per year, with a target of 200 or fewer new patients per year (the national average).

Issues for promoting CKD control and measures to be considered in the future

- The Kumamoto Prefectural Government and the Kumamoto University Department of Diabetes have introduced measures for diabetes control, but they are not linked to Kumamoto City's CKD control measures.
- Kumamoto City has produced and started to distribute leaflets for explaining CKD to patients, but in some cases, family doctors cannot obtain patient consent to make a referral to a specialist.
- Kumamoto City would like to know evaluation results for initiatives conducted as part of severe DKD prevention programs in each prefecture.
- The national Government has revised its health promotion plan and Kumamoto City is now examining indicators to verify its initiatives. Kumamoto City would like to know how data is being gathered from each municipality in cases where data is compiled on a prefectural basis and cannot be obtained on a per-municipality basis.
- Data that can be obtained by municipalities is based on National Health Insurance, which covers about 30% of residents. This makes it difficult to reflect the actual circumstances in municipalities. If there are any examples of successful coordination between National Health Insurance and private insurance, Kumamoto City would like to know about them.
- As the population continues to age, Kumamoto City is examining numerical targets to adopt in the future.

3-7. Takasaki City, Gunma Prefecture

Conditions surrounding CKD in Gunma Prefecture

- (Trends in dialysis incidence and prevalence) In Gunma Prefecture, the number of chronic dialysis patients per million was 3012.7 in 2016 and 3304.1 in 2021, while the number of new dialysis patients was 609 in 2016 and 729 in 2021. (Source: "An overview of regular dialysis treatment in Japan," The Japanese Society for Dialysis Therapy Statistical Survey Committee)
- (Primary disease) Diabetes is the most common primary disease.
- (Regional characteristics) Costs associated with outpatient diabetes care and the rate of diabetes consultations are higher than the rest of Japan.

History of CKD control in Takasaki City

Takasaki City was facing an increase in healthcare expenditures for CKD and dialysis, so it approached the city medical association for a consultation. This led to the establishment of the Executive Committee for Hospital-Clinic Collaboration on CKD.

- The Takasaki City Medical Association, testing facilities, and government agencies in Takasaki City meet regularly to discuss healthcare in the community. This led to an opportunity to consult the director of the Takasaki City Medical Association on CKD.
- The director of the Takasaki City Medical Association then consulted the chairman of the Gunma Prefecture Committee for the Promotion of CKD Control.
- The Executive Committee for Hospital-Clinic Collaboration on CKD includes the Takasaki City Medical Association, the Gunma Medical Association, nephrologists from university hospitals,

and the Takasaki City Public Health Center.

Details of CKD measures in Takasaki City

Outline of measures

- In 2016, members of the Executive Committee for Hospital-Clinic Collaboration on CKD created a manual on CKD titled, "Takasaki City Manual for Hospital-Clinic Collaboration on CKD."
- Recommendations for medical examination are being provided in accordance with programs like the Severe Diabetic Nephropathy Prevention Program in the Takasaki City Severe Lifestyle Disease Prevention Program.

Hospital-clinic collaboration

Efforts to educate people using the Takasaki City Manual for Hospital-Clinic Collaboration on CKD through the Takasaki City Medical Association are currently underway. For example, in December 2016, the Association hosted an explanatory meeting for 70 participants and distributed the manual to those who could not attend. The manual has since been distributed to all of the approx. 200 healthcare institutions providing health checkups in Takasaki City so that local family doctors understand the criteria for hospital-clinic collaboration and can make appropriate referrals to specialists.

Cooperation with other medical specialties

Takasaki City has implemented kidney disease measures as part of its Project for the Prevention of Severe Lifestyle Diseases.

- Takasaki City spends more on outpatient diabetes care and has a higher rate of consultations for diabetes than the national average. To address these issues, starting in around 2013, the city has been engaged in an initiative to make home visits to people with untreated diabetes. This predates local efforts to promote hospital-clinic collaboration on CKD.
- Takasaki City is using health checkup data and medical claims data to identify people who have not attended a medical examination for diabetes after a specific health checkup finds hyperglycemia or a similar condition. Such people are provided with a recommendation to seek a medical examination.
- When launching the initiative to issue recommendations for medical examination in accordance with the Severe Diabetic Nephropathy Prevention Program as part of the Takasaki City Severe Lifestyle Disease Prevention Program, a number of changes were made to the program as a result of discussions with the Takasaki City Medical Association. For example, eligibility was expanded to include people undergoing medical examinations for senior citizens age 75 and over, the use of contact sheets for recommendations for medical examination was adopted, and the decision was made to expand the program to issue notifications to people with untreated CKD in addition to those with untreated diabetic nephropathy.
 - In addition to people with suspected diabetic nephropathy, criteria of eGFR below 40 with urine protein +2 have also been defined to identify people with suspected CKD. In addition, criteria for people with hyperglycemia are revised every fiscal year and have been expanded to include diabetes patients who have dropped out of treatment.
 - With regards to people with untreated CKD, people undergoing treatment for diabetes with declining kidney function and who have not been linked to nephrologists have also been included.
- The government mails notices to eligible people that include forms to contact health facilities. Recipients of those notices then take the forms to their family doctor. After their medical examination, the family doctor reports back to the government. This allows the government to then directly send recommendations for medical examination to eligible parties who have gone unreported. By issuing requests for cooperation to partnered health facilities every year,

before these efforts begin, the government is able to expand prevention measures to encompass people who the initiative does not target.

Evaluating CKD control measures

- The final outcome assessment is based on the number of new dialysis patients.
- In addition to the number of new dialysis patients, Takasaki City also tracks changes in eGFR levels and other test values as well as conditions surrounding healthcare expenditures.
- Collaboration on CKD consultations is evaluated by tracking the state of hospital-clinic collaboration using reports on CKD consultation contact forms (which are submitted by family doctors to the Takasaki City Public Health Center).
- Family doctors report the results of medical examinations to the city using the recommended medical examination contact form. Takasaki City uses these forms to evaluate recommendations for medical examination. Medical claims data is used to track the final status of recommendations for medical examination (including details regarding hospital-clinic collaboration) before the subsequent fiscal year.

Issues for promoting CKD control and measures to be considered in the future

Issues facing hospital-clinic collaboration

- The Takasaki City Manual for Hospital-Clinic Collaboration on CKD needs to be updated.
- It is difficult to reach out to every family doctor to inform them about the manual and have them adopt it. It is difficult for the government to hold training seminars for physicians, so expectations are high for medical associations to take the lead in this area.
- Referrals and reverse referrals reported using the CKD consultation contact forms have been decreasing in number, while the number of health institutions submitting those forms has become fixed. These conditions have made it difficult to grasp the actual state of hospital-clinic collaboration.
- The role of Takasaki City is limited to contacting other parties, such as by providing eligible people with recommendations for medical examination or by issuing requests for cooperation in the CKD initiative to family doctors. It is difficult for the city to implement measures that will further promote hospital-clinic collaboration, so expectations are high for family doctors and specialists to make conscious efforts to reinforce collaboration.

Issues facing evaluation

- Although the Kokuho Database (KDB) is the only available source of data for evaluation, not all data is reflected in the KDB, so may be room for further consideration in the future.
- There are limits to the evaluation indicators that can be established by Takasaki City alone. Expectations are high for the central Government and academic societies to establish evaluation axes.

3-8. Asahi City, Chiba Prefecture: Kensuke Yoshimura (Head and Specially-Appointed Professor, Center for Next Generation of Community Health, Chiba University Hospital; Representative, COV-Navi), Hidekazu Iida (Specially-Appointed Lecturer, Center for Next Generation of Community Health, Chiba University Hospital)

Conditions surrounding CKD in Asahi City

- (Trends in dialysis incidence and prevalence) Please see “Chiba Prefecture” on page 30, section 3-2.
- (Primary disease) Population aging in Asahi City has advanced (31% of residents are 65 years of age or older) and the most common causes of nephropathy are lifestyle diseases (diabetes and hypertension).

The interview summarized below was centered on diabetes control, which is a part of CKD control.

History of CKD control in Asahi City

- Asahi General Hospital serves as the core hospital for the city and its Department of Diabetes and Metabolism was proactive about introducing preventive measures together with the community.
- Asahi City was active in engaging in public-private partnerships and was highly motivated to introduce new measures for community development based on the “Lifelong Active City Concept” led by the government.
- In 2021, Asahi City, Chiba University Hospital, and pharmaceutical company Novo Nordisk Japan entered into an agreement to engage in comprehensive cooperation for diabetes control in Asahi City. This led to the launch of the Asahi Project for Cities Changing Diabetes (CCD).

Details of CKD measures in Asahi City

Outline of measures

- CCD Asahi (2021-2025)
CCD Asahi is a project that aims to identify issues related to type 2 diabetes and obesity and to share its findings while encouraging meaningful action to help address the increase in diabetes in urban environments. CCD aims to reduce health disparities by addressing social and cultural factors in a manner that is tailored to local characteristics through public-private partnerships. Over 40 cities are currently participating in the CCD initiative.
- The Asahi City Severe Diabetes Prevention Program

Awareness-raising and education

Initiative for preventing the onset of diabetes: An internal project team spanning multiple divisions at Asahi City Hall is currently planning and implementing a diet and exercise action plan. A quantitative study using the KDB found that undesirable dietary habits and exercise problems may be causing people to develop diabetes. A qualitative study (an interview survey) found that there are cultural values and environmental factors unique to Asahi City.

Initiatives related to recommending medical examinations after health checkups

- Asahi City is working to make recommendations for medical examination more effective by confirming prospects for patients after their checkups and providing information to family doctors.
- Making significant lifestyle changes is difficult, so education that begins during childhood is important.

Hospital-clinic collaboration

- In the Severe Diabetic Nephropathy Prevention Program, meetings are held as needed to discuss common issues or explore future directions. Participating organizations include Asahi Medical Association, Asahi General Hospital, pharmaceutical associations, Chiba University, pharmaceutical companies, and the Asahi City government.
- Current circumstances and issues shared at the regional liaison meeting for diabetes prevention are described below.
 - Community development (The car-centric urban environment, the difficulty of establishing exercise habits)
 - Citizens’ dietary habits (high sodium intake, excessive fruit consumption)
 - Cooperation between the local government and health institutions (the lack of standardized diabetes guidance or reference materials, collaboration with dentists)

Collaboration with paramedics

Although the number of Kidney Disease Treatment Advisors in hospitals is increasing, they are engaged in few activities outside of hospitals. A system for collaboration has yet to be fully established.

Evaluating CKD control measures

- Daily sodium intake
- Items being tracked include citizen participation in health events, changes in health awareness, number of people who undergo specific health checkups, and implementation and adherence rates for health guidance.
- Other tracked items include diabetes prevalence and the number of new cases of diabetic nephropathy.

Issues for promoting CKD control and measures to be considered in the future

- Establishing a system for collaboration among local public health nurses, dietitians, and treatment advisors
- Providing interventions to people eligible for guidance (i.e. addressing the difficulty of providing explanations and obtaining consent)
- Cooperating with hospitals and family doctors (by providing information regarding initiatives and facilitating referrals to specialists)

3-9. Minato City, Tokyo: Akira Fukui (Lecturer, Division of Nephrology and Hypertension, Department of Internal Medicine, Jikei University School of Medicine)

Conditions surrounding CKD in Tokyo

- (Trends in dialysis incidence and prevalence) In Tokyo, the number of chronic dialysis patients per million was 2308.7 in 2016 and 2397.1 in 2021, while the number of new dialysis patients was 3599 in 2016 and 3752 in 2021. (Source: “An overview of regular dialysis treatment in Japan,” The Japanese Society for Dialysis Therapy Statistical Survey Committee)
- (Primary disease) Diabetic nephropathy is the primary disease for almost half of all new dialysis patients.
- (Regional characteristics) While the total number of people receiving dialysis in Tokyo has remained steady, there has been a significant increase in the number of new male dialysis patients age 85 years and over.

History of CKD control in Tokyo and Minato City

- Tokyo is rich in medical resources. It has thirteen universities with medical schools and 1,153 nephrologists (as of July 3, 2023), which is the most in Japan. However, the unique size-related characteristics of Tokyo described above make it difficult to implement CKD control measures in a top-down manner.
- In Tokyo, measures for CKD control that are tailored to conditions in each area are being implemented from the bottom up by parties like municipalities, secondary medical districts, local medical associations, and hospitals. In Minato City, measures for CKD control are being implemented through collaboration that involves the government, health institutions, and academia.
- In Minato City, there are administrative officials who are very interested in health guidance and proactive about introducing policy. Thanks in part to leadership from nephrologists, there has also been smooth collaboration between the departments in Minato City as well as among the city, nephrologists, and medical associations.

Details of CKD measures in Minato City

Outline of measures

- A network for hospital-clinic collaboration that utilizes the Minato Association for Collaboration on CKD has been established.
 - Recognizing that there are limitations to relying on nephrologists alone to treat people with CKD, Minato City established a networking system for team treatment among local medical staff, starting with family doctors and the nephrologists at seven core hospitals.
 - When a physician creates a referral form online, the patient's information is stored in an anonymized database.
- Microalbuminuria tests conducted under National Health Insurance

Medical examination vouchers are being sent to people who have received specific health checkups in Minato City that were found to have HbA1c levels of 6.5% or higher and urinary protein (-) or (±) and who are enrolled in Minato City National Health Insurance. Urinary albumin tests are conducted at those examinations.

Awareness-raising and education

Minato City is disseminating information on kidney disease and other medical information in cooperation with local libraries by distributing leaflets or setting up corners for books on the kidney.

Initiatives related to recommending medical examinations after health checkups

Starting in FY2021, teams established by public health centers, medical associations, and core hospitals have been conducting microalbuminuria tests through National Health Insurance. This initiative aims to provide early detection and intervention for people in the initial stage of diabetic nephropathy, which cannot be detected with standard testing.

Hospital-clinic collaboration

- To facilitate referrals and reverse referrals among family doctors and its seven core hospitals, Minato City is using a collaboration pass that is shared among all hospitals.
- A common referral form for collaborating hospitals to use is available on the Minato Association for Collaboration on CKD website. Information entered into the referral form is stored in an anonymized database.
- By including a section for users to record their preferred future methods of treatment and collaboration with specialists on the referral form, Minato City has created a system for producing methods of cooperation with specialists tailored to family doctors and their specialties.

Internal collaboration at Minato City

Within the Minato City government, the National Health Insurance and Pension Section and Health Promotion Section are working together on data management and project evaluation and analysis for the Severe Diabetic Nephropathy Prevention Project as well as on measures to delay or halt CKD progression.

Issues for promoting CKD control and measures to be considered in the future

Minato City

- The Minato CKD network provides an online referral form that can be compiled as data, but there are few users. Reasons for this include the fact that the electronic medical records used at hospitals are not connected to the internet.
- One issue facing specific health checkups is the fact that decisions regarding specific health checkups are left entirely up to the family doctors who perform them despite varying levels of understanding toward urinary protein and microalbuminuria among family doctors.
- Minato City has many university hospitals that are visited by many CKD patients, and

communication within hospitals is an important aspect of providing CKD patients with early interventions during medical examinations in other departments. There are also many specialists with expertise in kidney disease such as nephrologists and diabetologists, so steps should be taken to encourage cooperation among clinics.

Tokyo

- The uptake rate for specific health checkups in Tokyo is among the highest in Japan, but many of these checkups are performed through employers, so efforts must be devoted to providing recommendations for medical examination.
- Approximately half of all CKD patients in Tokyo have DKD, so a program for the prevention of severe diabetic nephropathy can also serve as a measure for CKD control. This means it will be important to deepen understanding toward DKD among people responsible for implementing that program so it can be utilized for CKD control to the greatest extent possible. To reduce dialysis incidence in the short term, proactive efforts should be taken to approach people with CKD stage G4 or later or with high proteinuria levels to provide recommendations for medical examination.
- To reduce the number of people who require dialysis and improve QOL for people with kidney disease, measures to increase the number of transplants also require consideration. People with CKD who are hospitalized may be staying in departments other than those for nephrology and hypertension or diabetes, metabolism, and endocrinology. While cooperating with Kidney Disease Treatment Advisors and other paramedics, collaboration among various hospital departments should be introduced to promote CKD control.

3-10. Nagasaki City, Nagasaki Prefecture

Conditions surrounding CKD in Nagasaki City

- (Trends in dialysis incidence and prevalence) Please see “Nagasaki Prefecture” on page 32, section 3-3.
- (Regional characteristics) The government and medical association have a good cooperative relationship and work together to publicize various policies and implement joint measures. Nagasaki City also has a good relationship with Nagasaki Prefecture. City officials participate in Nagasaki Prefecture Severe DKD Prevention Seminars and other events.

History of CKD control in Nagasaki City

To reduce and delay dialysis incidence, Nagasaki City launched CKD control measures together with the Nagasaki University Hospital Department of Nephrology and the Nagasaki City Medical Association in February 2012. DKD measures were later introduced and both measures were merged.

Details of CKD measures in Nagasaki City

Outline of measures

- Nagasaki City is hosting events on World Kidney Day to build awareness for people who have no symptoms or may have latent symptoms. To raise awareness among younger generations, the city is creating opportunities for guardians to think about the diets of children or their own health through activities like introducing low-sodium or vegetable recipes at child-rearing classes and similar opportunities.
- To halt the progression of kidney disease among people whose specific health checkups detect mildly impaired kidney function, Nagasaki City is holding a series of lectures on preventing severe CKD called the “Healthy Kidney Class.”
- Other efforts to prevent severe kidney disease in Nagasaki City include establishing a system for hospital-clinic collaboration and reinforcing that collaboration through activities like

hosting meetings of the Nagasaki City Stop CKD Network.

- Nagasaki City registered dietitians are providing health guidance to people who are in the pre-dialysis stage.

Awareness-raising and education

- Simplified home urinalysis kits are being distributed at various events as part of the “Let’s Try Urinalysis” Project. Leaflets on CKD are also being distributed.
- The COVID-19 pandemic reduced opportunities to raise awareness toward CKD in person. In response, simplified urinalysis kits and CKD leaflets were distributed to guardians of children eligible for three-year-old checkups. This project began in FY2020 and ran for three years. The reason for focusing on 3-year-old checkups was that the city wanted to promote CKD awareness and early urinalysis among members of the generation that are under 40 years of age and have yet to start receiving specific health checkups.
- After circumstances surrounding the COVID-19 pandemic began to change and in-person events resumed, the distribution of urinalysis kits at three-year-old checkups was dropped in favor of current efforts like distributing kits at events. In addition to budgetary reasons, low testing rates, and low response rates to surveys, this was done because many guardians of three-year-olds were returning to workplaces where they would receive health checkups.

Initiatives related to recommending medical examinations after health checkups

- Measures for severe DKD prevention from Nagasaki City include providing recommendations to seek medical examinations by phone or mail to those who have not attended a medical examination at a health institution or who have dropped out of treatment.
- Medical examinations conducted through National Health Insurance have been outsourced to the Nagasaki City Medical Association since FY2020. There, case review meetings are being held by medical specialists. Public health nurses provide family doctors with explanations on the results of those reviews, then family doctors encourage the person in question to seek health guidance. As one method of approaching high-risk groups, starting in FY2023, an integrated health and long-term care prevention project has been conducted as part of health checkups for senior citizens age 75 years and over.

Hospital-clinic collaboration

The Nagasaki City Medical Association is hosting a workshop on CKD at the request of Nagasaki City. Health institutions that participate in that workshop are certified as Cooperating CKD Health Institutions. Because the Nagasaki Medical Association has officially approved this workshop as a “Lifelong Learning Course,” it has already been completed by almost one-thirds of family doctors. The workshop has not been offered in recent years due to the COVID-19 pandemic.

Health guidance provided with city-appointed, full-time registered dietitians

CKD patients deemed in need of intervention by a nephrologist or family doctor are being provided with nutritional guidance through personal home visits made by full-time registered dietitians. In general, these visits are made once per month for six months. Nutritional guidance is also being provided on a group basis through cooking classes held once every two months.

Developing human resources

A workshop on CKD prevention for paramedics is being held to deepen their understanding toward CKD. The workshop has not been offered in recent years due to the COVID-19 pandemic.

Issues for promoting CKD control and measures to be considered in the future

- When implementing a project for many years, it can be difficult to continue working under the

same conditions as when it was launched, including at related institutions. In the case of CKD control, the same initiative has been in place in Nagasaki City for over a decade. The city must now reflect on current circumstances and consider next steps for reducing dialysis incidence and extending the pre-dialysis stage.

- As for methods of evaluating the project or setting numerical targets, it is difficult to establish items from perspectives other than decreasing the number of new dialysis patients or extending the period before dialysis is introduced.

3-11. Matsumoto City, Nagano Prefecture: Yuji Kamijo (Clinical Professor, Department of Nephrology, Shinshu University School of Medicine)

Conditions surrounding CKD in Nagano Prefecture

- (Trends in dialysis incidence and prevalence) In Nagano Prefecture, the number of chronic dialysis patients per million was 2519.2 in 2016 and 2698.0 in 2021, while the number of new dialysis patients was 622 in 2016 and 592 in 2021. (Source: “An overview of regular dialysis treatment in Japan,” The Japanese Society for Dialysis Therapy Statistical Survey Committee)
- (Primary disease) There has been an increase in the number of new dialysis patients with nephrosclerosis and other non-diabetic forms of CKD.

History of CKD control in Matsumoto City

- Matsumoto City produced its own severe DKD prevention program that was launched in 2015 and was centered on collaboration among physicians and pharmacists. However, that program did not target general DKD patients or CKD patients.
- However, a CKD fact-finding survey showed that people at high risk of requiring dialysis in the future included a very large number of non-diabetic nephropathy patients in addition to DKD patients. Furthermore, many of the people treated by nephrologists were in later stages of the disease, which suggested that dialysis cannot be avoided through interventions provided for advanced kidney dysfunction. The survey also found that nephrologists were only able to intervene for a small percentage of all cases of CKD or DKD. To expand interventions among people with early-stage CKD, Matsumoto City introduced activities to reinforce collaboration among family doctors and nephrologists.
- From one nephrologist’s perspective, Matsumoto City’s original severe DVD prevention program was insufficient. They advocated for the need for control measures that included CKD to Nagano Prefecture and Matsumoto City. The first step in this effort was the introduction of the Matsumoto City Severe Diabetic Nephropathy and CKD Prevention Program in Matsumoto City, which is home to Shinshu University.

Details of CKD measures in Matsumoto City

Outline of measures

Matsumoto City is currently running a program called the Matsumoto City Severe Diabetic Nephropathy and CKD Prevention Program.

Plans include:

- Establishing the Nagano Prefecture Preliminary Study Group on CKD Control (in collaboration with the Nagano Prefecture Department of Health and Welfare and the Nagano Medical Association)
- Establishing the Nagano Prefecture CKD Control Committee
- Certifying Nagano Prefecture Cooperating CKD Control Physicians

Initiatives related to recommending medical examinations after health checkups

Centered on government initiatives, recommendations to seek medical examinations are being provided to high-risk groups to link health checkups to family doctors.

Hospital-clinic collaboration

- Matsumoto City is working with the Matsumoto City Medical Association to energize hospital-clinic collaboration. Specific efforts include raising awareness among family doctors toward the need to refer patients to specialists if their urine tests are positive for urinary protein or if their eGFR is declining.
- Not all family doctors are interested in CKD and approaching them can be a challenge. Matsumoto City will continue raising awareness toward CKD through tools like “Lifelong Learning Courses” from its medical association (which are eligible for credits and curriculum codes, and are therefore incentivized).
- Matsumoto City has defined criteria for referring patients to nephrologists and diabetologists and there is ongoing collaboration with and referrals to specialists according to disease risk.

Collaboration with paramedics and professional organizations

The Matsumoto City Severe Diabetic Nephropathy and CKD Prevention Program is being carried out by the Matsumoto City Integrated Community Care Committee, which is centered on several professional organizations and has a DKD and CKD task force. Through that task force, collaboration that cuts across multiple disciplines and that involves parties like local government, nephrologists, diabetologists, family doctors, pharmacists, nurses, dietitians has taken place since the program’s initial stages.

Cooperation with other medical specialties

Before the launch of the Matsumoto City Severe Diabetic Nephropathy and CKD Prevention Program, Matsumoto City had been engaged in its own initiative for the prevention of severe DKD. It involved providing people with early-stage diabetes with coaching from family pharmacies working together with partners like physicians and Diabetes Treatment Advisors. That initiative targeted people with type 2 diabetic nephropathy in stage 2 or 3, so it did not take a comprehensive approach to treating people with DKD.

Given these circumstances, the Matsumoto City Severe Diabetic Nephropathy and CKD Prevention Program was launched in 2019 to serve alongside this program and foster hospital-clinic collaboration to treat high-risk DKD and CKD patients who test positive for urinary protein or who have declining eGFR.

Evaluating CKD control measures

- Only four hospitals in Matsumoto City have nephrologists on staff. This makes it possible for the city to gather and evaluate information on the number of referred patients and interventions provided by the specialists at each hospital. This information is being used to evaluate progress on CKD control.
- While it is common to evaluate control measures based on the number of new dialysis patients, steps should be taken to consider soft criteria, as well. These may include items that can be measured earlier, such as the status of urine protein testing or guideline adherence rates.

Issues for promoting CKD control and measures to be considered in the future

- In many cases, measures for diabetes, DKD, and CKD control are handled by different departments within the local government. Because measures for these diseases overlap in many areas, they should be advanced together.
- Measures for DKD control will not be enough to reduce the number of new dialysis patients; action must also be taken for non-diabetic CKD. The national Government recognizes this need and the Kidney Disease Control Review Meeting has also issued recommendations on how to halt the progression of CKD. However, many local governments’ control measures currently

only aim to address DKD and they must take steps to implement similar countermeasures for non-diabetic CKD. When such measures are being established, nephrologists should be proactive about getting involved.

- Even when family doctors provide comprehensive care, there are cases in which they are not able to intervene for all CKD risk factors. Protecting the kidneys requires viewing every CKD risk factor from various angles and introducing interventions for each one. Specialists are providing family doctors advice in accordance with evidence (or guidelines) on each intervention.
- In hospital-clinic collaboration on DKD, patients are not recognized as being at high risk unless their HbA1c is high, but in addition to HbA1c, urinary protein and low eGFR are important factors for identifying the severity of kidney disease. However, in many cases, tests to measure protein in urine are not performed and high-risk patients go overlooked. The 2023 version of the CKD Guidelines emphasize the importance of urinary protein to help raise awareness toward urinary protein among physicians and to help them understand the importance of urinalysis.

3-12. Sado City, Niigata Prefecture: Yoshiko Tominaga (Professor, Department of Social Pharmacy, Faculty of Pharmacy Sciences, Niigata University of Pharmacy and Medical and Life Sciences)

Conditions surrounding CKD in Sado City

(Trends in dialysis incidence and prevalence) In Niigata Prefecture, the number of chronic dialysis patients per million was 2232.3 in 2016 and 2420.8 in 2021, while the number of new dialysis patients was 521 in 2016 and 579 in 2021. (Source: “An overview of regular dialysis treatment in Japan,” The Japanese Society for Dialysis Therapy Statistical Survey Committee)

History of CKD control in Sado City

- Sado City has a high utilization rate of its regional medical network, “Sado Himawari Net,” which serves as an extensive system for sharing citizens’ health data among facilities like hospitals, clinics, dental clinics, pharmacies, and long-term care facilities.
- Sado City requires seamless multidisciplinary collaboration because of its extremely high rate of population aging (which was 42.6% as of 2020) and because the city has limited medical resources due to its location on a remote island.
- Sado City obtained a research budget through the Japan Pharmaceutical Association’s Pharmacist Professional Promotion Research Grant Project and has introduced measures that aim to address CKD and other lifestyle diseases and are centered on pharmacists.

Details of CKD measures in Sado City

Outline of measures

Sado Pharmaceutical Association, Niigata University, and Niigata University of Pharmacy and Medical and Life Sciences conducted a joint study on halting the progress of lifestyle diseases including CKD through pharmacists at family pharmacies.

Collaboration with paramedics

- An item on dietary habits (related to hypertension and diabetes) was added to patient interviews at family pharmacies so pharmacists can understand and provide guidance on both dietary habits and medication adherence.
- The aforementioned study uses its own original salt content checklist and feedback sheet that share items of note and specific salt intake reduction targets in an easy-to-understand format.
- When a pharmacist determines that a patient requires nutritional guidance, they make a referral to a national registered dietitian.
- To create an environment in which patients can easily access dieticians on their own, nutrition care stations have been established to clearly indicate where to find a dietician (just as

pharmacists can be found at pharmacies).

Cooperation with other medical specialties

As the focus of the study is not only on CKD but encompasses all lifestyle diseases, participating pharmacists are providing interventions that target dietary habits in a comprehensive manner.

Issues for promoting CKD control and measures to be considered in the future

- Similar to smoking cessation and rehabilitation, how to evaluate and reimburse continuous support aimed at long-term control for lifestyle diseases must be considered.
- Other items that will require consideration include methods of evaluating hospital-pharmacy collaboration among pharmacists (at pharmacies) and physicians.
- Patients place a great amount of trust in pharmacists at their family pharmacies, making them good candidates for providing dietary management and guidance or other interventions for lifestyle diseases. As these additional duties will increase workloads, it will be necessary to consider how to introduce incentives or streamline operations.

Acknowledgments

To prepare these policy recommendations, discussion points were crystallized during individual interviews with local governments and specialists with best practices as well as from advisory board meetings held with the members listed below. We express our deepest gratitude for the cooperation of all who participated. These recommendations were compiled by HGPI in its capacity as an independent health policy think tank and in no way represent the opinions of advisory board members, speakers at our expert meetings, other related parties, or any of the organizations to which those parties are affiliated. This report is copyright 2024 Health and Global Policy Institute.

Local governments and specialists who lent their cooperation for the interviews

(Titles omitted; in Japanese syllabary order by prefecture and city. Affiliations and titles are current as of time of interview.)

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Chiba Prefecture

Nagasaki Prefecture

Yamanashi Prefecture

Okayama City, Okayama Prefecture

Kumamoto City, Kumamoto Prefecture

Takasaki City, Gunma Prefecture

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Sado City, Niigata Prefecture: Yoshiko Tominaga (Professor, Department of Social Pharmacy, Faculty of Pharmacy Sciences, Niigata University of Pharmacy and Medical and Life Sciences)

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Iwao Kurose (Executive Director, Japan Medical Association)

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March,2024



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National Graduate Institute for Policy Studies (GRIPS) Global Health Innovation Policy Program

Nippon Boehringer Ingelheim Co., Ltd.

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