



Vision of Dental Care Toward 2040

Dentistry in the Reiwa Era

October 2020

Japan Dental Association

Foreword

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The Japan Dental Association hereby released *Vision of Dental Care Toward 2040: Dentistry in the Reiwa Era*. (Japan's Reiwa Era began in 2019.)

Dental care professionals in Japan have successfully achieved the results including Dental Caries Prevention Activities and the 8020 Campaign to improve the public health.

Meanwhile, the recent rapid declining birthrate and ageing of Japanese population, has been straining the universal health insurance coverage that our country boasts to the world, and how to secure the healthy retirement in the era of 100 years of life has become an issue.

For this reason, the Japan Dental Association repeatedly discussed the new roles and responsibilities for dental care given in the super-ageing society. And we could have obtained many findings that oral health is closely related to the overall health. Based on the conviction that dental care and oral health care management will be able to dramatically contribute to extend the healthy life expectancy required in a super-ageing society, we have developed this report as a new vision which depicts the ideal state of dental care 20 years from now, looking ahead to the year 2040.

Conceptualizing this Vision in 2018, we formed the Vision of Dental Care Toward 2040 Review Committee, which included external advisors on June 19, 2019. The committee meetings were held three times to discuss the Vision in detail. Although the COVID pandemic that occurred in January 2020 interrupted progress, the editorial committee restarted work, meeting enthusiastically so that we could release this publication and it was profoundly appreciated.

Our objectives to publish the Vision and commitment are described in detail in the Introduction. As mentioned, the Vision states the direction in which we will move forward with the public, based on their understanding.

We will proceed with our response according to a specific action plan based on this Vision. Since this is a guideline for the next 20 years, additions and corrections will obviously be required and we would like to make further modifications as we move forward with our efforts.

In closing, I express my deep appreciation for the contribution of the Review Committee members, authors, advisors, and individuals in the developing of the Vision.

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1 Introduction

1 Why we need to develop Vision of Dental Care now?

1) Changing times and main challenges

We live in a time of great change.

Japan saw a surge in dental caries beginning approximately in 1955, leading some to refer this period the “Dental Caries Flood.” But subsequent caries-prevention initiatives by the concerted efforts of family dentists and others in the dental society, coupled with improved school dental health programs, greatly reduced the number of dental caries in 12-year-olds, which fell from 4.09 to 0.70 over the past 25-year period specifically from 1993 to 2019 alone (Chart 1).

Another driver of better dental health has been the 8020 (Hachimaru Niimaru) Campaign undertaken over 30 years by the Japan Dental Association in cooperation with the members of dental associations nationwide, governments, and citizens with the goal of helping people keep at least 20 of their teeth at age 80 so that they can enjoy eating throughout their lives. Fewer than 10% of 80-year-olds had at least 20 teeth when the 8020 Campaign was launched, but by 2016 the proportion had increased to 1 in 2 people (Chart 2).

Thanks to the efforts of the dental society as a whole, Japanese dental care saw great achievements in promoting dental and oral health, in terms of both treatment and prevention.

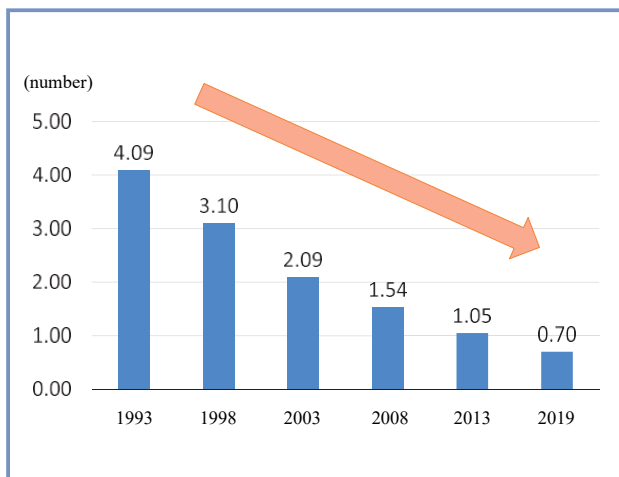


Chart 1 Changes of average per capita number of permanent tooth caries in 12-year-olds

Source: Japan Dental Association Research Institute with data from School Health Statistics Survey (by Ministry of Education, Culture, Sports, Science and Technology)

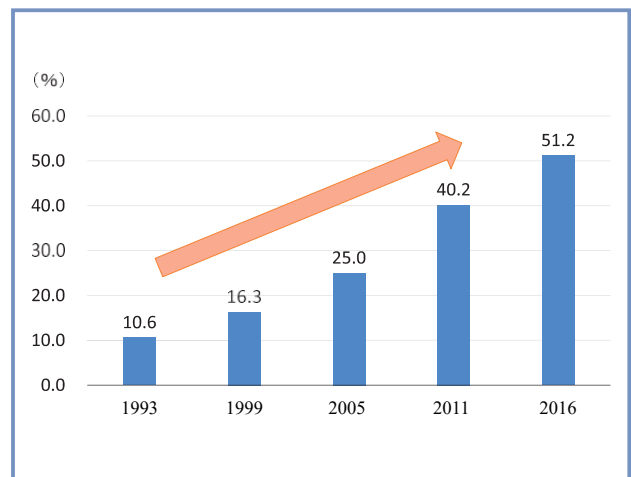


Chart 2 Changes of 80-year-olds with at least 20 teeth

Japan Dental Association Research Institute with data from National Survey of Dental Disease (by Ministry of Health, Labour and Welfare)

On the other hand, the environment surrounding dental care has changed remarkably with advances in dental technology and changes in the disease profile of the population due to ageing and financial pressure on the medical insurance system attributable to rapid ageing of the population and decline in births. Obviously, the people’s needs to the dental care has greatly evolved with these changes. Looking forward 20 years from now

reveals big new challenges including a significant increase in the elderly population as well as a declining population and an associated decrease in workers and supporters.

When these social changes and evolving needs are considered, an array of challenges for dentistry emerges. The Vision of Dental Care Towards 2040 Review Committee and others vigorously discussed these challenges. These discussions emerged the key issues of adapting as society ageing, increasing the quality and enhancing the functionality of dental care, and addressing new technologies. Based on the discussion so far, we would like to share the priority issues to be addressed in particular in the future and make a concerted effort by the dental society, led by the Japan Dental Association. This Vision will serve as guidance for these efforts.

2) Responses to date

In recent years, the dental community has actively responded to these changes in the environment surrounding dentistry. This must first be recognized. The dental society has come together over more than 15 years to repeatedly debate how dental care should evolve considering Japan's super-ageing society. We have collected and analyzed the results of many surveys and other data, and based on them, we have disseminated with evidence that "oral health is closely related to systemic health" and that "the enhancement of dental care and promotion of oral health care contribute significantly to the financial aspects of healthcare and the extension of healthy life expectancy." The advocacy by the dental society have fostered an understanding of the importance of dental care and oral health care among the public. Moreover, the new shape of dental care sought by the dental community is gradually reflected in national policy. Specifically, the importance of dental care and oral health management has been listed with increasing information in the Basic Policies for Economic and Fiscal Management and Reform, as a key policy for budgeting by the national government, and the function of Dental and Oral Health Promotion Office in the Ministry of Health, Labour and Welfare has been strengthened and steady effects are being seen.

* In contrast to "oral rehabilitation and functional care," in which the dental profession is primarily involved, we defined "oral health care" as a broad concept encompassing "oral hygiene care" and "oral care," which other professions also have their roles (Chart 3).

3) Future responses and determinations

In the future, it will be necessary to respond to the expectations placed on the dental society, declare the new responsibilities that dentistry should assume, and develop them into concrete actions in the community. From this perspective, the Japan Dental Association worked to reconcile previous discussions and actions and identify upcoming challenges including the challenge of a decreasing population, ultimately creating this new Vision of Dental Care toward 2040.

Our aims in authoring *Vision of Dental Care Toward 2040: Dentistry in the Reiwa Era* were to present the expected shape of society in 2040, specify new roles and responsibilities of dentistry in that entire society, and make actions to enrich future dental care and oral health care specifically, generally, and comprehensively.

In building this vision, we assembled a review committee that included external advisors to have multilateral discussions. Advisors from outside the dental society presented opinions on what will be desired dental care in Japan's super-ageing society. We have discussed the nature of medical collaboration within the community from a multifaceted perspective, asking for opinions from a variety of medical-related professions, etc.

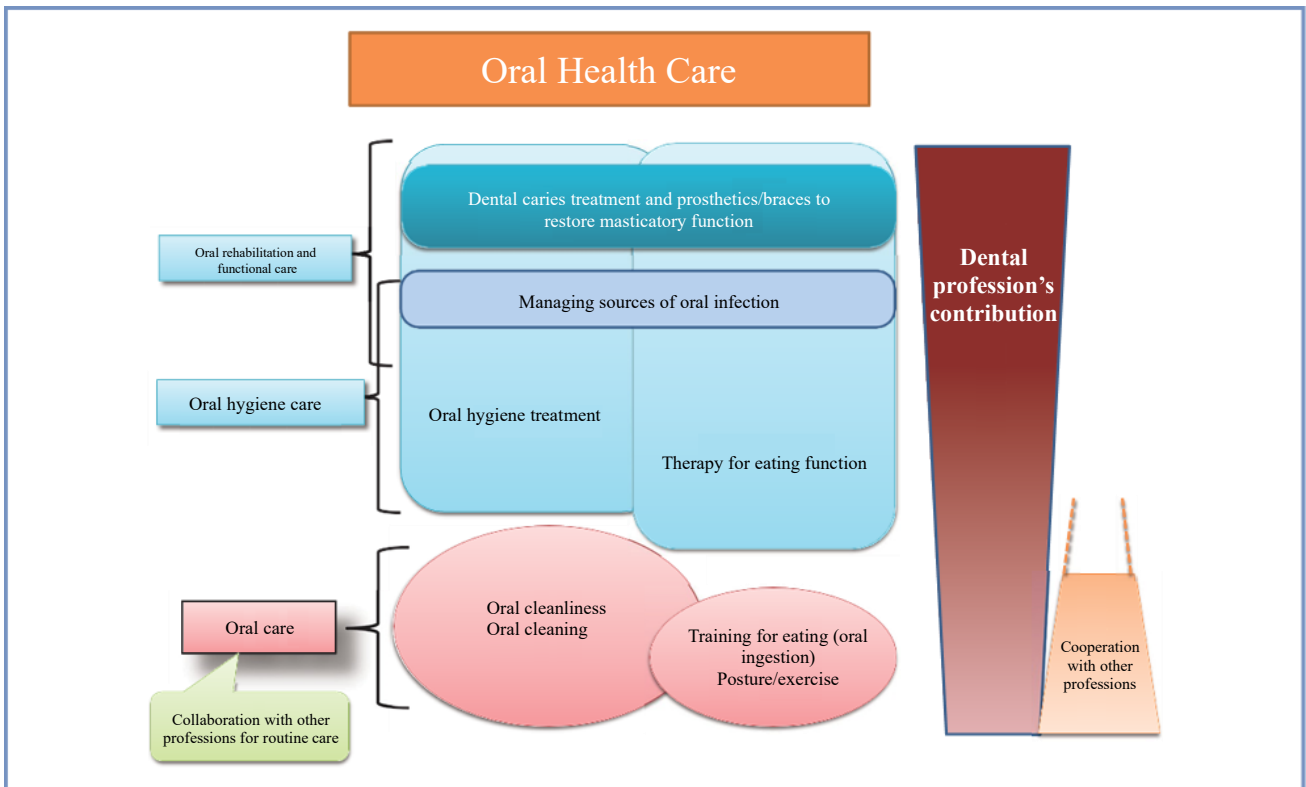


Chart 3 Oral health care

Source: Kaoru Sakurai: Progress by the Oral Care Review Committee and Future Prospects. Journal of Japan Dental Association. 69(4). 286-287. 2016. Masahito Sumitomo: A New Concept of 'Oral Care' as proposed by Japanese Association for Dental Science. The Nippon Dental Review. 877, 10-11. 2015.

The committee concluded that in a society of longevity, people should not only aim to live longer, but also to fulfill the basic functions of daily life, such as eating, speaking, and laughing, until the end of life, and that dental care and oral health care must be improved to realize a society of health and longevity with smiles. Based on this high philosophy and social mission, the Vision embodies the challenges and responses.

The Japan Dental Association is committed to advocate for government policies for the people and work with the people to spark action at a regional level in line with this new vision for dentistry.

2 Particular focus challenges

Challenges to be addressed and actions to be taken are discussed in detail in the following chapters. The challenges that should be considered focus issues are summarized in this section. This is an important matter that should guide the future activities of the dental society, as well as an important matter that should be understood by and proceed together with the public.

1) Enhancement of dental care and securing adequate financial resources.....

Looking at the size of Japan’s healthcare expenditures, it can be seen that they are still relatively lower than in western countries, given the ageing of the population, although they are increasing in all major countries as the population ages. The proportion of these expenditures directed toward dental care, moreover, is declining substantially. These low levels mean that the profession may not be sufficiently providing dental care services at the level expected by the public (Chart 4 and Chart 5).

Although a look at Japan’s overall social security system reveals that expenditures have grown with the ageing population, enhancements to accommodate ageing, and an increasing level of healthcare, overall financial resources remain insufficient, and the situation continues to be described as a “welfare state in which benefits are paid in advance.” While the financial structure of medical care consists of taxes, insurance premiums, and patient co-payments, the consumption tax, one of the main financial resources, has just been raised to 10% in 2019, and needs are expected to grow even more in the future. Financial resources must be secured for all areas to meet the expectations of the public.

In order to bring the current state of dental care in Japan, which is not at an adequate level even at present, up to a level that can meet the needs of the public, it is necessary to strive to improve dental care and secure adequate financial resources, with further gaining public understanding. The Japan Dental Association is committed to actively participate in discussions to further enhancing and strengthening of social security

2) Enhancement of dental care services for patients and support to improve patient QOL……

As mentioned above, the dental profession accomplished much during the “Dental Caries Flood” period when it confronted this public challenge with its full might. However, the current low level of dental care costs is due to the subsequent decline in dental caries and the failure to secure the necessary financial resources to “ensure treatment time and treatment systems for detailed patient care” and “shift to dental care that is attuned to the life and lifestyle of each patient,” and to achieve a reputation for high quality dental care.

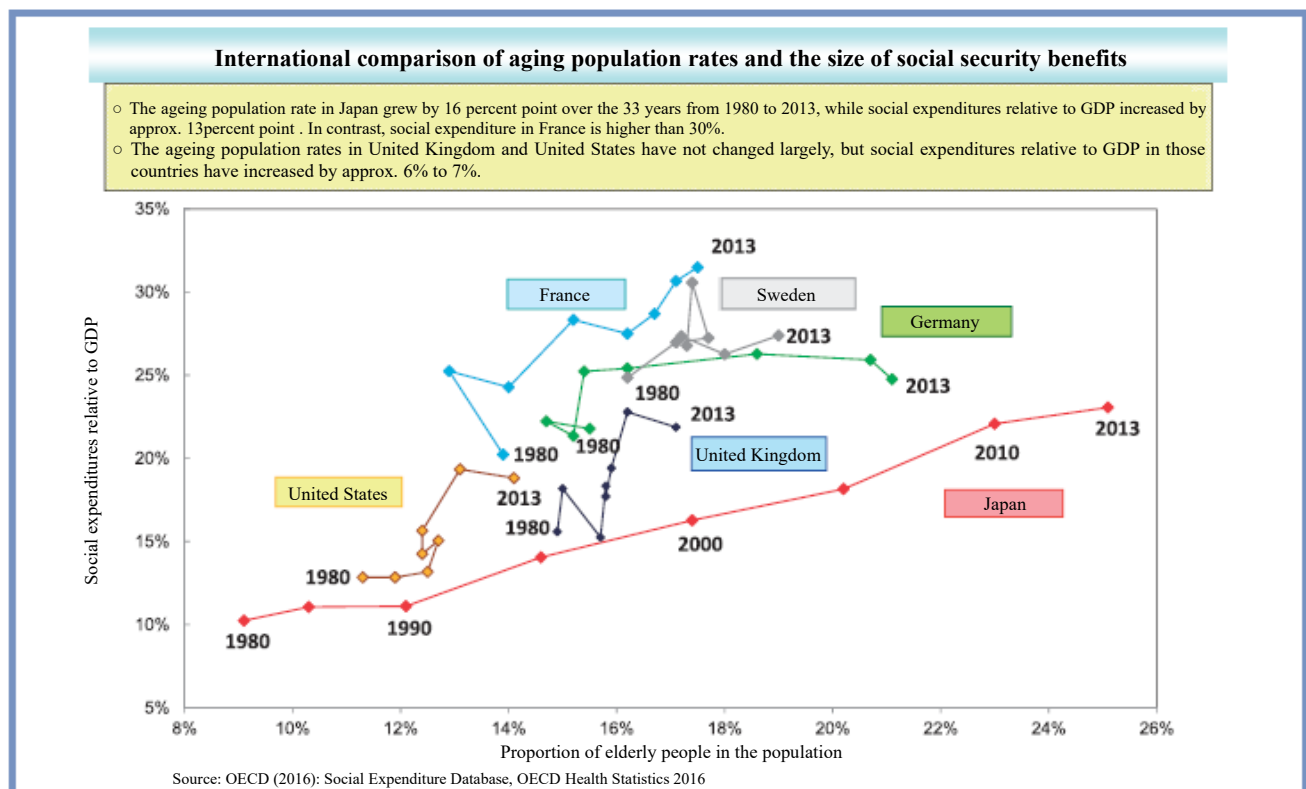


Chart 4 International comparison of ageing population rates and the size of social security benefits

Cited: “Roundtable meeting to promote how to get medical care well (November 12, 2018)” by Ministry of Health, Labour and Welfare

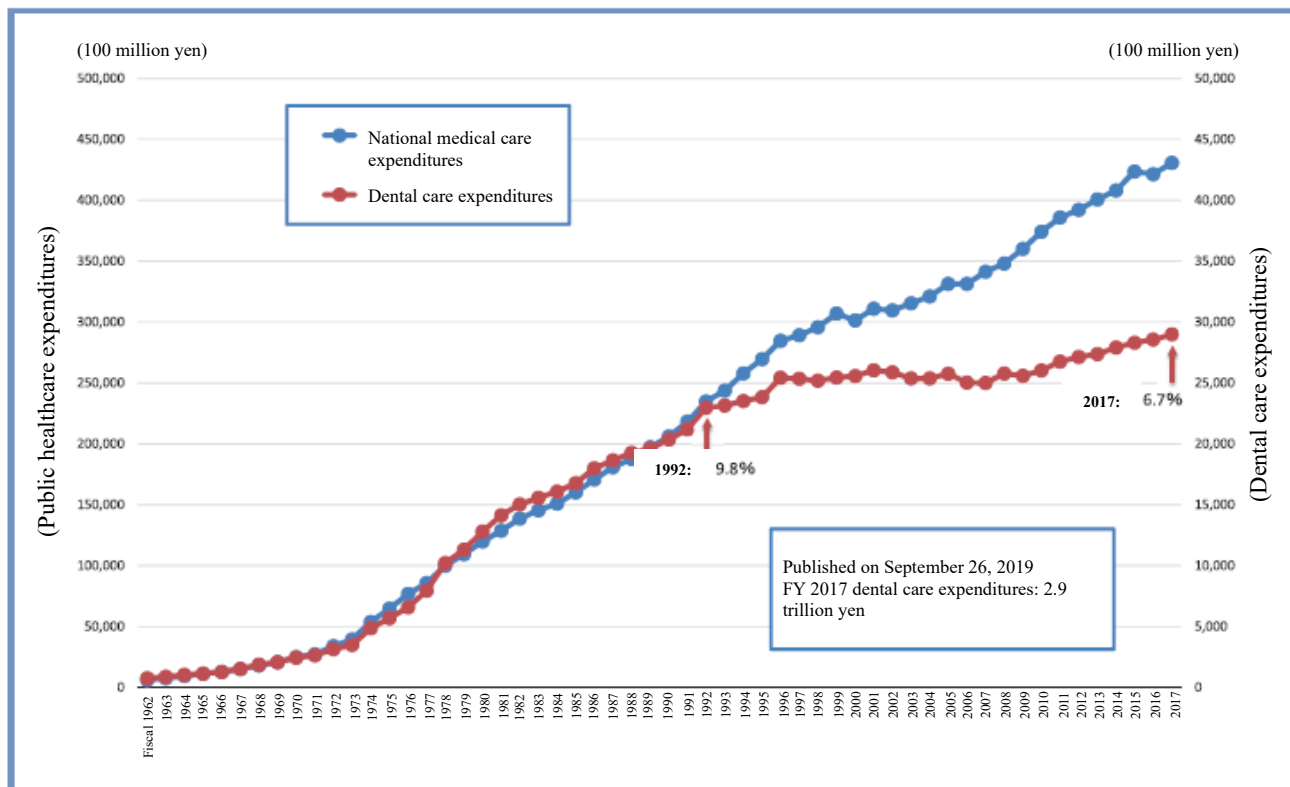


Chart 5 National medical care expenditures and dental care expenditures

Source: Japan Dental Association Research Institute based on National Medical Care Expenditure, Ministry of Health, Labour and Welfare

Medical fee revision financial resources acquired by reducing drug prices over the almost two decades from 1984 to 1998 was not allocated to dentistry. Dentistry received unfavorable adjustment over the decade from 1984 to 1994 of just 1.6%, which was less than half the adjustment allocated to medicine which was 3.4%, indicating that evaluation appropriate to the skill and value of dental care was not ensured. Therefore, we will continue to aim for dental care that actively contributes to the improvement of QOL by enhancing dental care services and attending to the lives and livelihoods of patients, while gaining the understanding and acceptance of the public. As the review committee concluded, it will be important to preserve the basic daily functions of eating, talking, and laughing to the end of life in our long-lived society. We will fulfill our responsibilities to achieve this goal. To this end, as described in the following chapters, we are committed to comprehensively working to raise the quality of dental care (by increasing the time allocated to care and number of professionals involved, and enhancing infection-prevention measures), facilitate innovation (by implementing new technologies, getting insurance-coverage for these technologies, and enhancing the functionality of dental clinics), and provide eating support to allow patients to live happy lives to the end of their days (by helping patients to maintain or improve oral function, addressing the issue of oral frailty, and providing dental service at home).

3) Improvement of the efficiency of total costs related to social security

Although the growth of elderly population will slow looking ahead to the next 20 years, the younger population will decline, which means fewer people to fund and support the social security system. This shift will require not only better care but also more efficient care to be considered in discussions about how to keep social security sustainable. The dental society must help increase the efficiency of care. To this end, we have

recently been working on surveys of the effectiveness of dental care, analyzing the results to collect evidence. The survey results revealed that enhancing dental care and oral health care would not only improve the quality of dental care but decrease the overall need for medical care, thereby greatly benefiting the population and national finances.

One of the findings was that providing proper oral rehabilitation and functional care for hospitalized patients statistically significantly reduced the hospital stay across all departments, with a reduction exceeding 10% (Chart 6). Proper oral rehabilitation and functional care appears to have provided this effect by reducing the burden of pathogens on mucosal immunity, thereby promoting wound healing and reducing complications. Further investigation of this point is warranted. But regardless of the mechanism involved, this finding shows the importance of oral rehabilitation and functional care in patients not only when an area near the mouth is involved but also when patients undergo highly invasive treatment. It shows the large effect that dental care has on the systemic health condition of patients. Our data also show that oral function management reduced the duration of antibiotic use. Thus, thorough dental care and oral rehabilitation and functional care in hospitals will bring significant benefits to both patients and medical insurance finances through “reduction of total healthcare needs.”

It also demonstrated the relationship between the number of teeth and medical care costs is also clear. Chart shows a comprehensive analysis of 2.3 million medical and dental insurance claims contained in the National Database of Medical Insurance Claims and Specific Health Checkups of Japan (NDB), which revealed that people of all ages and genders who had at least 20 teeth had lower medical expenses than their counterparts who had 19 or fewer teeth. Since it began over three decades ago in 1989, the 8020 Campaign (Chart 2) has produced outcomes in excess of the targets outlined in Health Japan 21 and it is obvious that the campaign has also provided financial benefits to Japan’s medical insurance finances.

Thus, the enhancement of dental care, including oral rehabilitation and functional care, will lead to significant benefits for patients and the public, and will also contribute to the finances of medical insurance and, by extension, the national government. Therefore, it is important to continue to promote the necessary support in the national healthcare policy toward 2040 so that all citizens, including inpatients, home patients, and institutional residents, can smoothly receive high-quality dental care services.

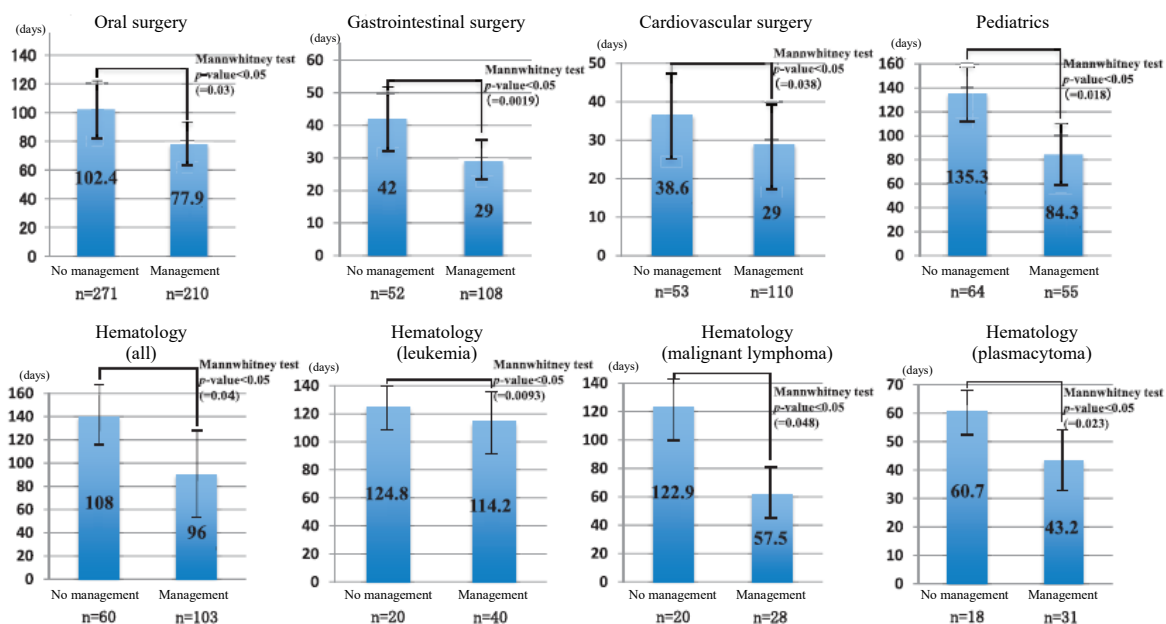
4) Dental care under the premise of COVID-19 pandemic

Since the first new coronavirus infection in the country was identified in January 2020, and to this day, the problem is not limited to one infectious disease, but continues to raise many questions and demand many changes for the future of the entire world. In particular, this issue has become a problem that has raised people to question their conventional values and ethics, as there are aspects of the issue that affect each other in the response, such as the “crisis of life due to disease” and the “crisis of the nation’s economy.”

It has also clearly raised a proposition that should be the starting point of social security “How to protect the health and lives of the people in times of emergency” in response to the healthcare policy that Japan has been pursuing in recent years from the perspectives of fiscal recovery and economy.

In this context, recognizing that at this point the response to this new “viral infection” will be a long-term one, the national government is trying to present a “new normal” for a situation where the spread of infection is always a possibility. We would like to show Vision of Dental Care Toward 2040 to be a figure befitting this new normal.

From data of an interventional study by Chiba University Hospital



- The reduction in length of stay was found to be statistically significant in all departments, with an effect of almost 10% or more.
- This shows the importance of proper oral rehabilitation and functional care not only when an area near the oral cavity is involved but also when patients undergo highly invasive treatment. Proper care appears to have prevented disruption of the oral bacterial colony upon treatment with large systemic impact, as described later.

Chart 6 Reduction effect to the length of hospital stay by oral rehabilitation and functional care

Source: Data submitted by Committee Member Tanzawa: Ministry of Health, Labour, and Welfare's 259th Session of Central Social Insurance Medical Council (November 22, 2013)

Cited from Committee Member Hori: Ministry of Health, Labour and Welfare's 84th Session of Medical Insurance Subcommittee of Social Insurance Council (November 27, 2014)

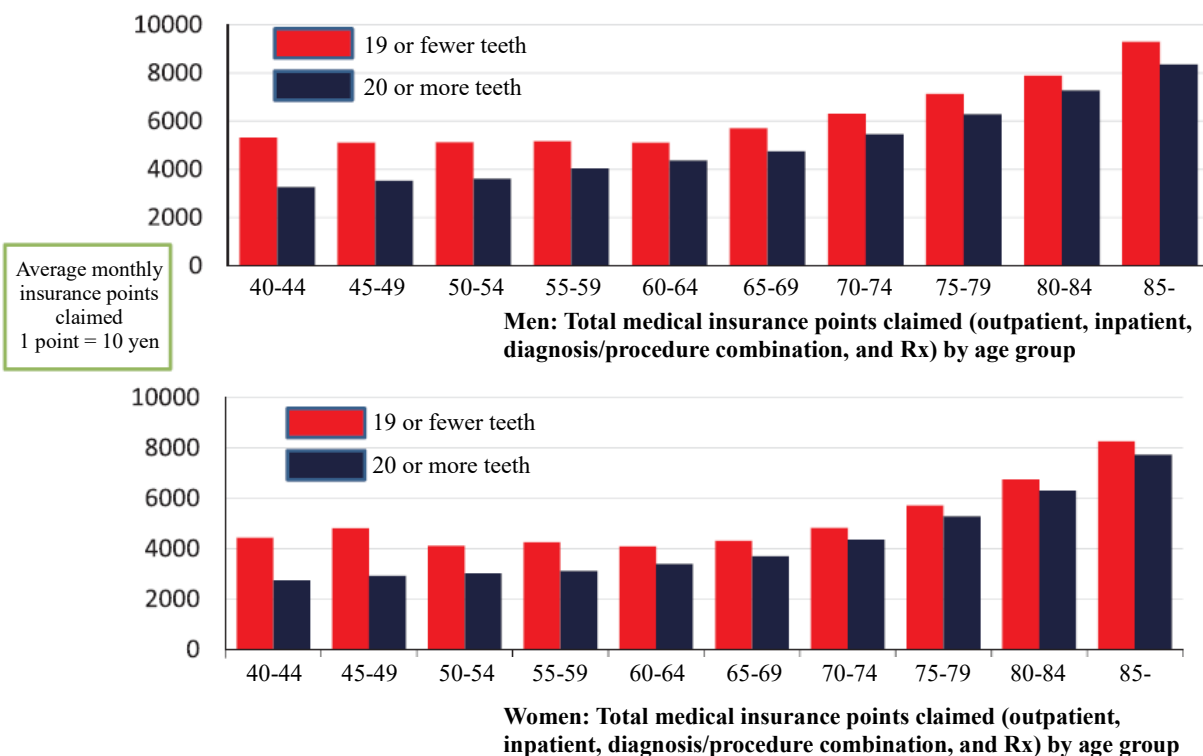


Chart 7 Relationship between number of teeth and medical expenditure from NDB Data

Created by Japan Dental Association Research Institute from third-party provided NDB data

The immediate focus of the pandemic response is infection prevention measures. With regard to infection prevention in the clinical setting, it is noteworthy that, at least to date, there have been no reported cases of infection spread through dental care or clusters of outbreaks. Once again, it is necessary to verify the effectiveness and cost of infection prevention measures in dental care settings on a daily basis, as well as the measures taken in addition to the standard preventive measures this time, and further strengthen them in preparation for future outbreaks. It is also necessary to discuss how the dental treatment system should be organized, including the open hours, frequency, and coordination of appointments, etc., taken to prevent the dental clinic is not dense.

Regarding infection prevention in daily life, we will further organize and disseminate evidence of the effectiveness of oral health care in viral infections. It is also important to position the oral health care in daily life as one of the family dentist functions.

In addition, it is strongly urged to improve the near-collapse of the supply of personal protective equipment at this time, and to secure and strengthen the production, distribution, and stockpiling systems. In the event of a similar spread of infection in the future, it is also important to clarify what kind of guidance and management should be provided at home, instead of face-to-face treatment, and to develop and clarify a system for providing emergency dental care for virus-infected patients, as well as to train of human resources for this purpose.

We will deepen discussions on the above, including evaluation in terms of reimbursement, and will continue to aim for “dental care that is close to the lives of the people throughout life course,” which we have always aimed for.

2 Entire society in 2040 and the future of dental care in data

By 2025, the last of Japan's baby boomer generation will be older than 75, and the country is forecast to transition from rapid growth of the elderly population to a steep decline in the working-age population over the period through 2040. By 2040, the population will have only 1.5 young people to support each elderly person.

Discussion of dental care in 2040 must factor in the per-capita number of dental clinics, number of dental service at home, and functionality of hospitals with a department of dentistry in individual secondary medical areas as well as municipalities. Obviously, there are both regions with an already substantial elderly population and regions whose elderly population will grow rapidly by 2040; therefore, many factors including the systems for providing dental care in such regions must be considered.

Ageing of the population not only impacts regional demographics. It is also deeply intertwined with efforts to maintain access to dental care in different regions. This chapter presents projections and models for dental care at this time.

1 Projection of numbers of patients visiting dental clinics

According to the 2017 projection in Population Projections for Japan by the National Institute of Population and Social Security Research, Japan's population will have declined by 16.3% in 2045 and 30.7% in 2065 (Chart 8).

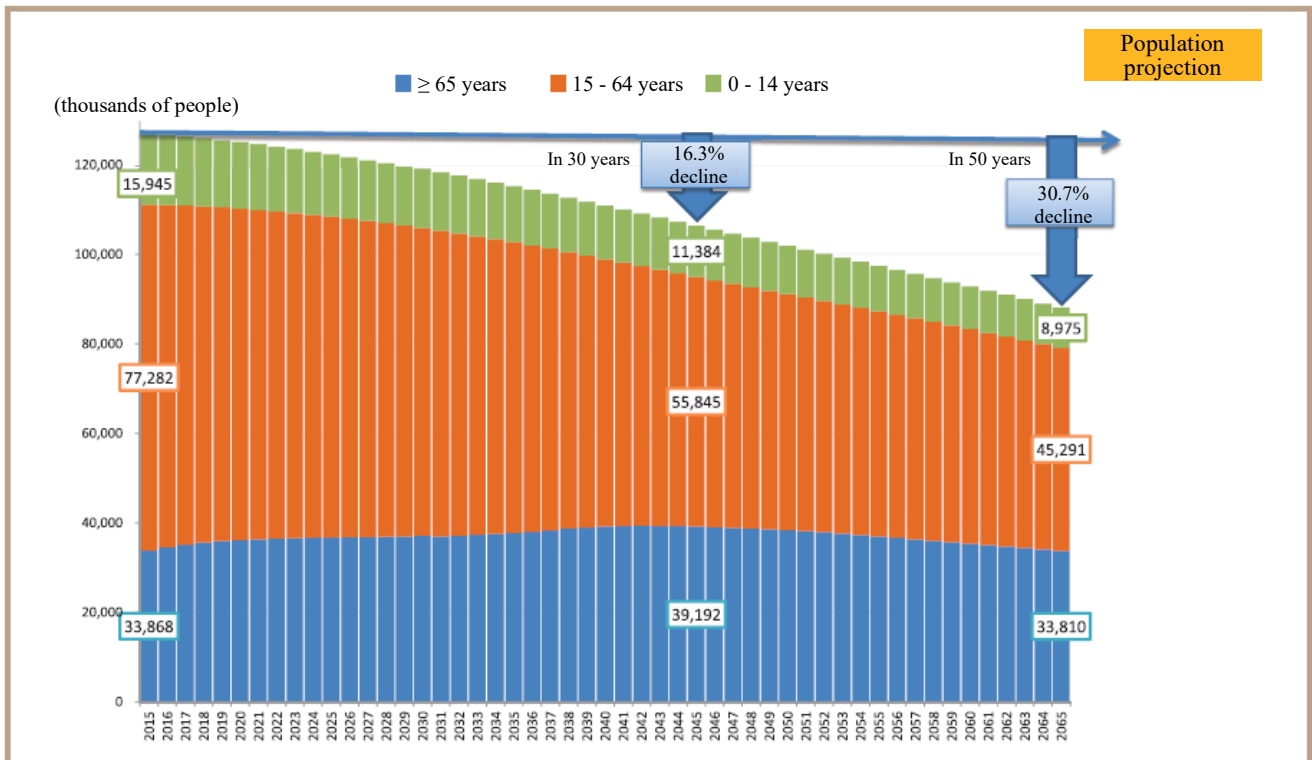


Chart 8 Population projection for the next 50 years

Created by Japan Dental Association Research Institute with data from the 2017 edition of Population Projections for Japan by National Institute of Population and Social Security Research

Assuming that dental clinic visit rate remains in the 2014 level, the projected number of patients visiting dental clinics will have declined by 10.8% in 2045 and 25.2% in 2065 (Chart 9). In other words, patients visiting dental clinics are, overall, expected to decrease substantially as the population drops. Even so, patients aged 65 years or older are predicted to increase through approximately 2045.

In terms of dental care expenditure, more than 95% of all dental care services are provided in dental clinics. The proportion of the population receiving dental care (Chart 10, based on 2011 data), which is provided primarily on an outpatient basis, peaks in the 70 - 74 year-old age group and decreases thereafter. The curve of the proportion of the population receiving outpatient medical care is shaped similarly but peaks at 80 - 84 years of age. This latter decline may be attributable to increasing levels of hospitalization and admissions to care facilities. With only about 20% of Japan's hospitals having a Department of Dentistry, elderly people are likely to lose the opportunity to receive dental care, once they are no longer able to visit dental clinics. When dental service at home is factored in, the proportion of the population visiting dental clinics (Chart 11), as verified with NDB data, shifts from the 2011 levels to the peak at 75 - 79 years of age, but still declines after 80 years of age.

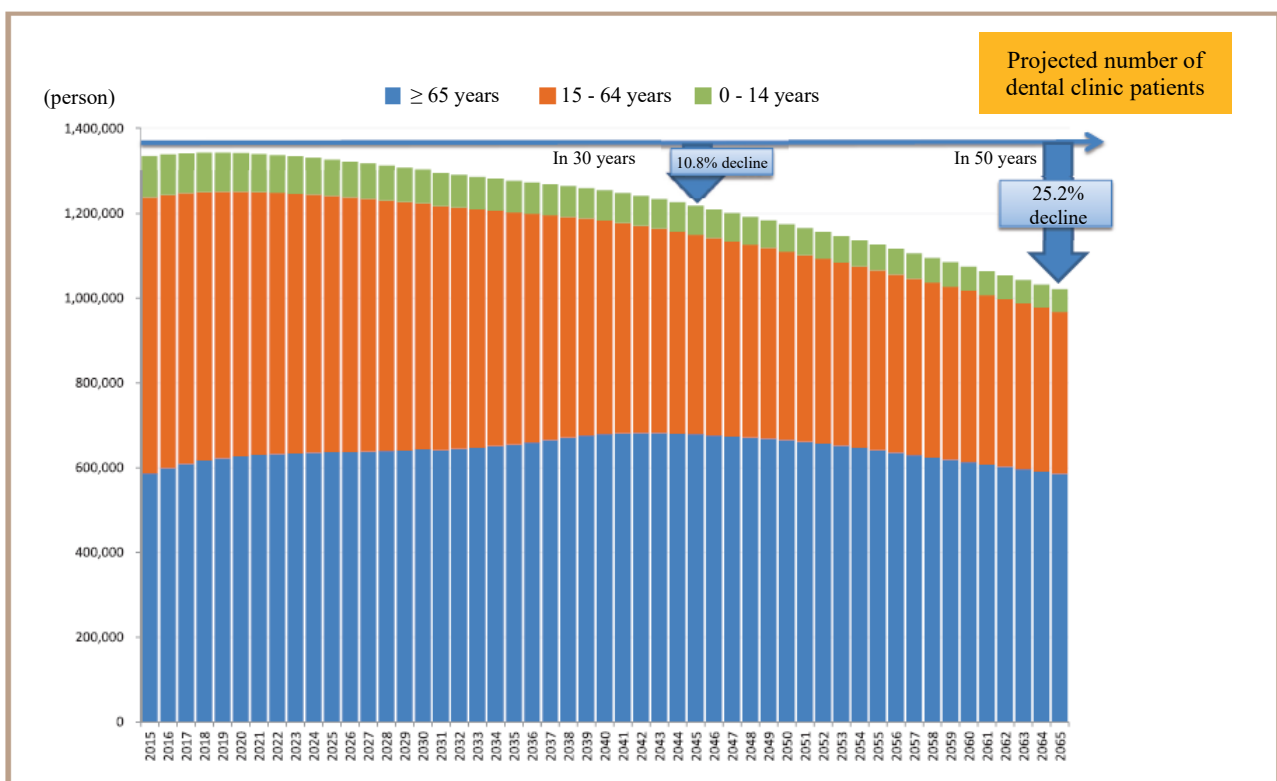


Chart 9 Projection of patients visiting dental clinics over the next 50 Years

Created by Japan Dental Association Research Institute with data from the 2017 edition of Population Projections for Japan by National Institute of Population and Social Security Research and *Patient Survey* (by Ministry of Health, Labour and Welfare)

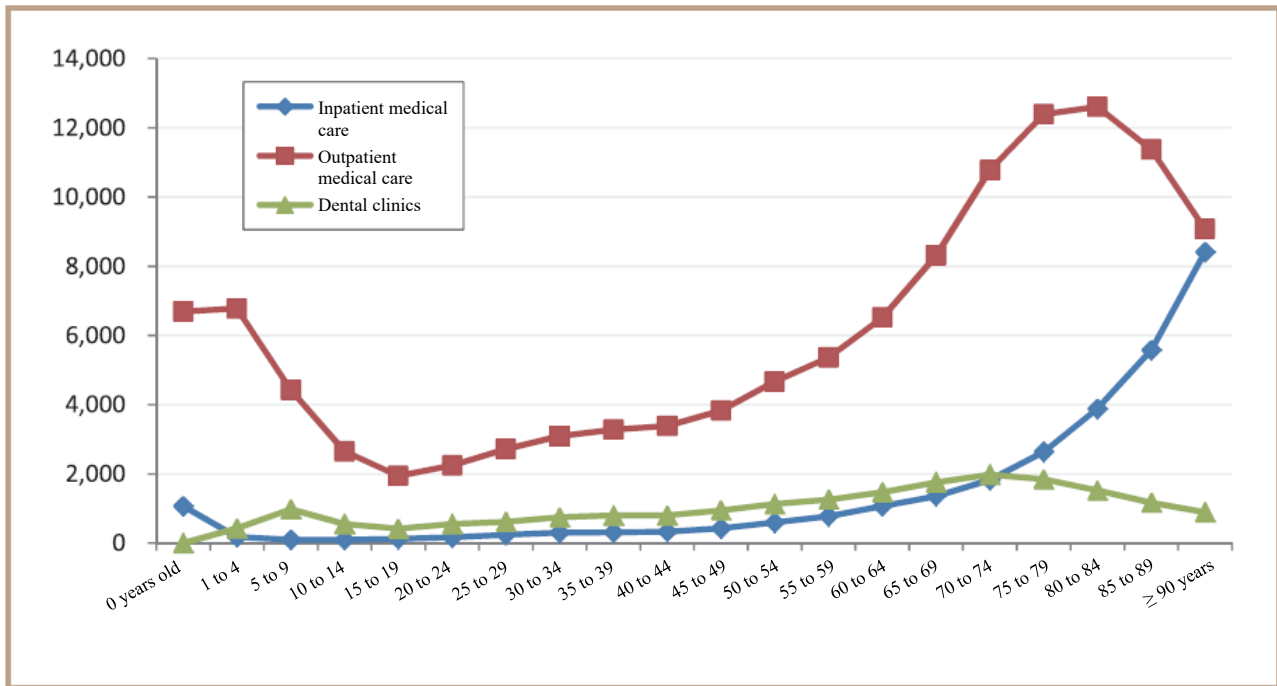


Chart 10 Proportion of population receiving care by age group (per 100,000 population)

Created by Japan Dental Association Research Institute with data from *Patient Survey* (by Ministry of Health, Labour and Welfare)

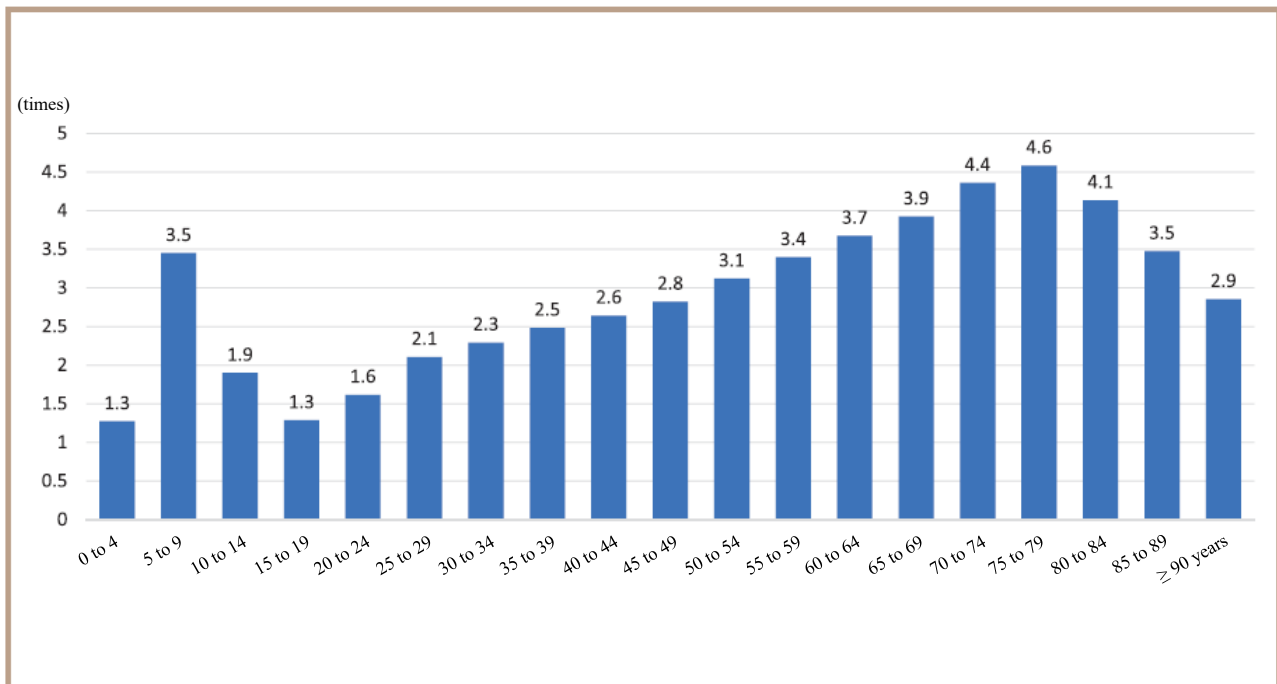


Chart 11 Per-capita number of dental visits by age group

Created by Japan Dental Association Research Institute based on public NDB data (by Ministry of Health, Labour and Welfare)

2

Current status and challenges on providing dental care to patients having difficulties in visiting dental clinics

A survey of elderly patients in need of care (Chart 12) revealed that 64.3% of this population needed dental care or oral health care but that only 2.4% actually received dental care. The discrepancy between demand and delivery systems is a challenge.

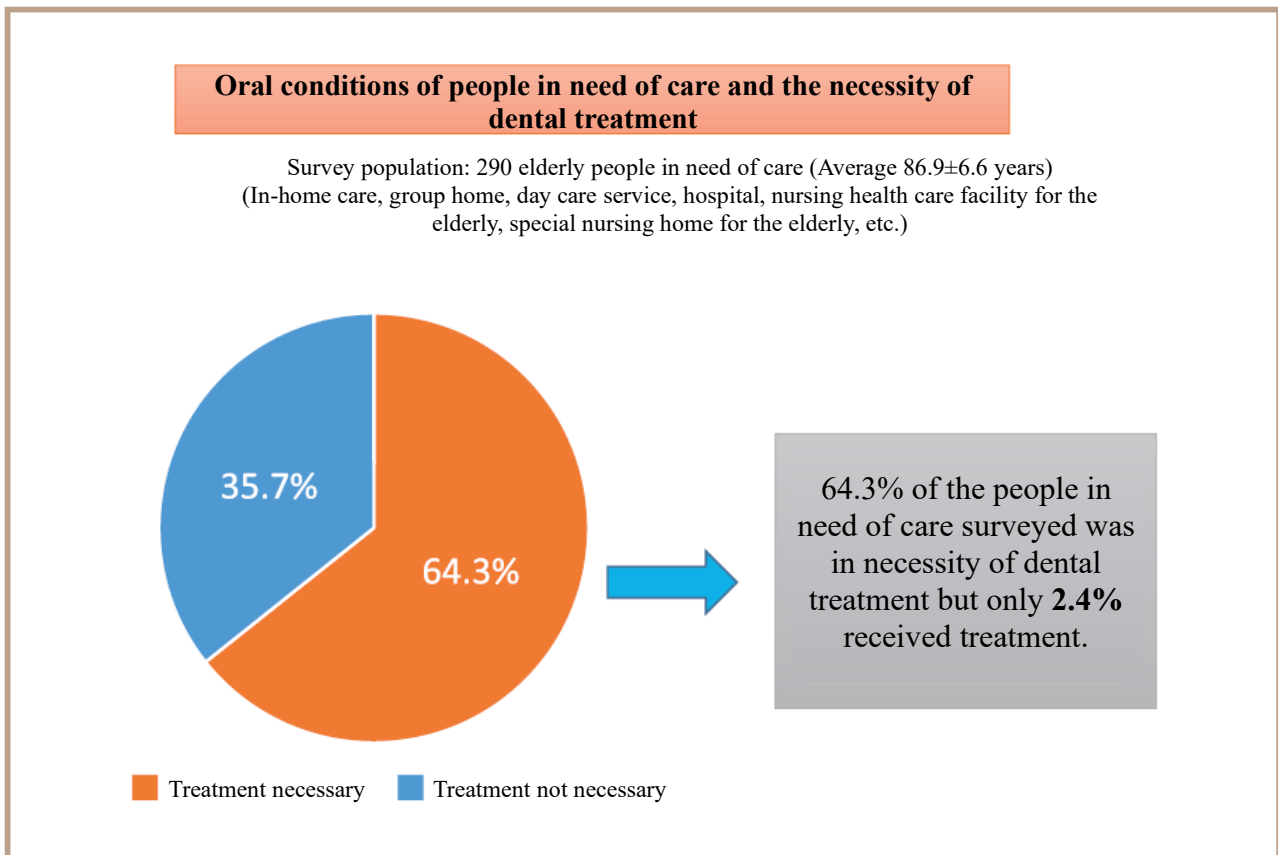


Chart 12 Oral conditions of people in need of care and the necessity of dental treatment

Data from interim report of “Study on Establishing Dental Treatment Guidelines in the Age of 100-year Olds with a Focus on the Relationship of Frailty and Dementia to Oral Health” in FY2019 Japanese Association for Dental Science Project Research

The projection of the number of patients visiting dental clinics shown in Chart 9 assumes that the gap between current demand and service provision remains unchanged. The dental society must promptly take action to meet the expectations of the public. One major challenge will be, reflecting the realities of the region in question, deciding how to establish a system for providing dental care services to patients having difficulties in visiting clinics. Although the percentage of dental service at home (by home and facility) and the number of dental visits conducted at the dental clinics that provide such services are increasing (Chart 13), only 20% of dental clinics currently offer the services. NDB data indicates disparities in dental service at home provision among Japan’s prefectures (Chart 14).

We modeled the increase in the age 75 & older population and number of in-home medical/dental care and long-term care service from 2010 to 2035 based on the data from a 2017 survey of medical institutions and the 2017 edition of Population Projections for Japan by the National Institute of Population and Social Security Research (Chart 15 and Chart 16). A total of 196 of Japan’s secondary medical areas will experience at least 30% growth in their age 75 & older population by 2035. Even data from 2017 show that 113 secondary medical areas have low levels of both dental and medical care for in-home and long-term care service settings, which suggests that various issues may be affecting these areas.

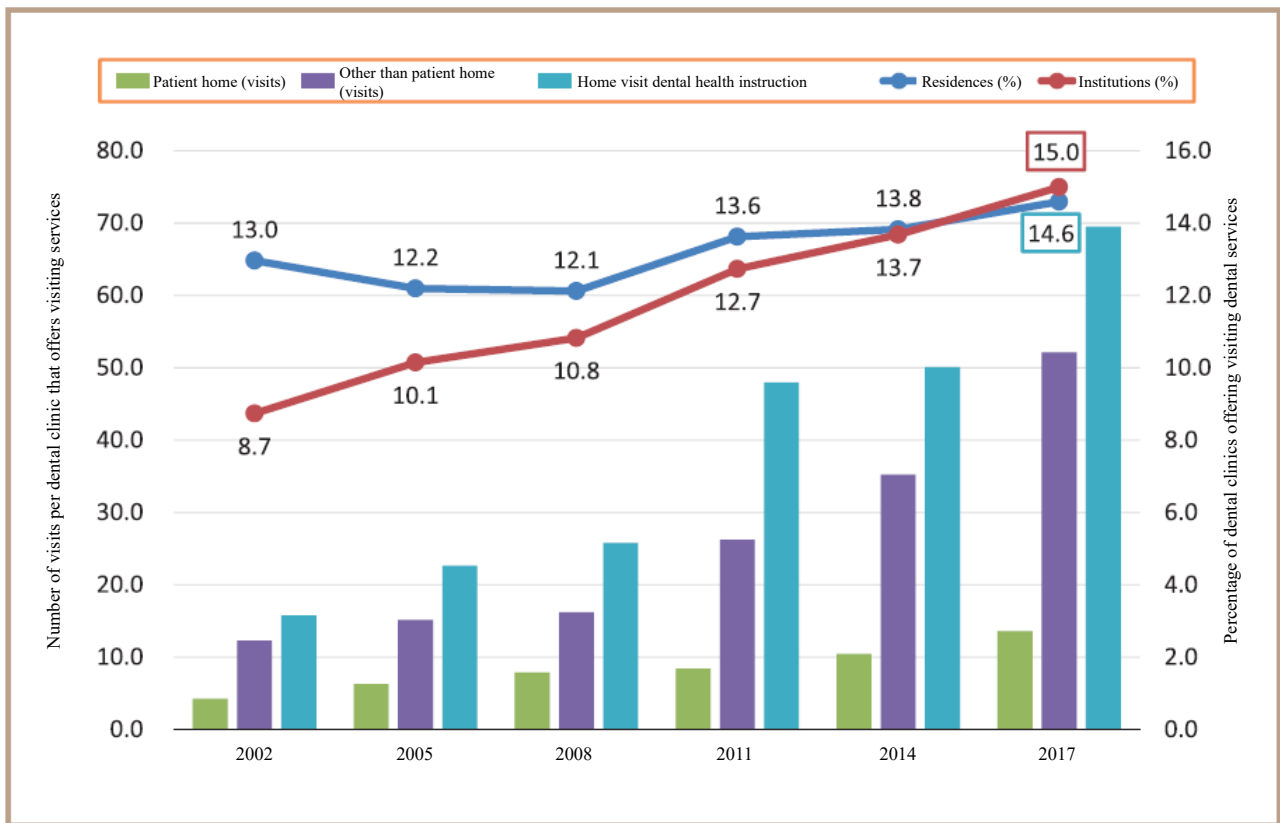


Chart 13 Proportion transition of dental clinics that offer visiting dental services by home/facility and number of visits per offering dental care

Created by Japan Dental Association Research Institute

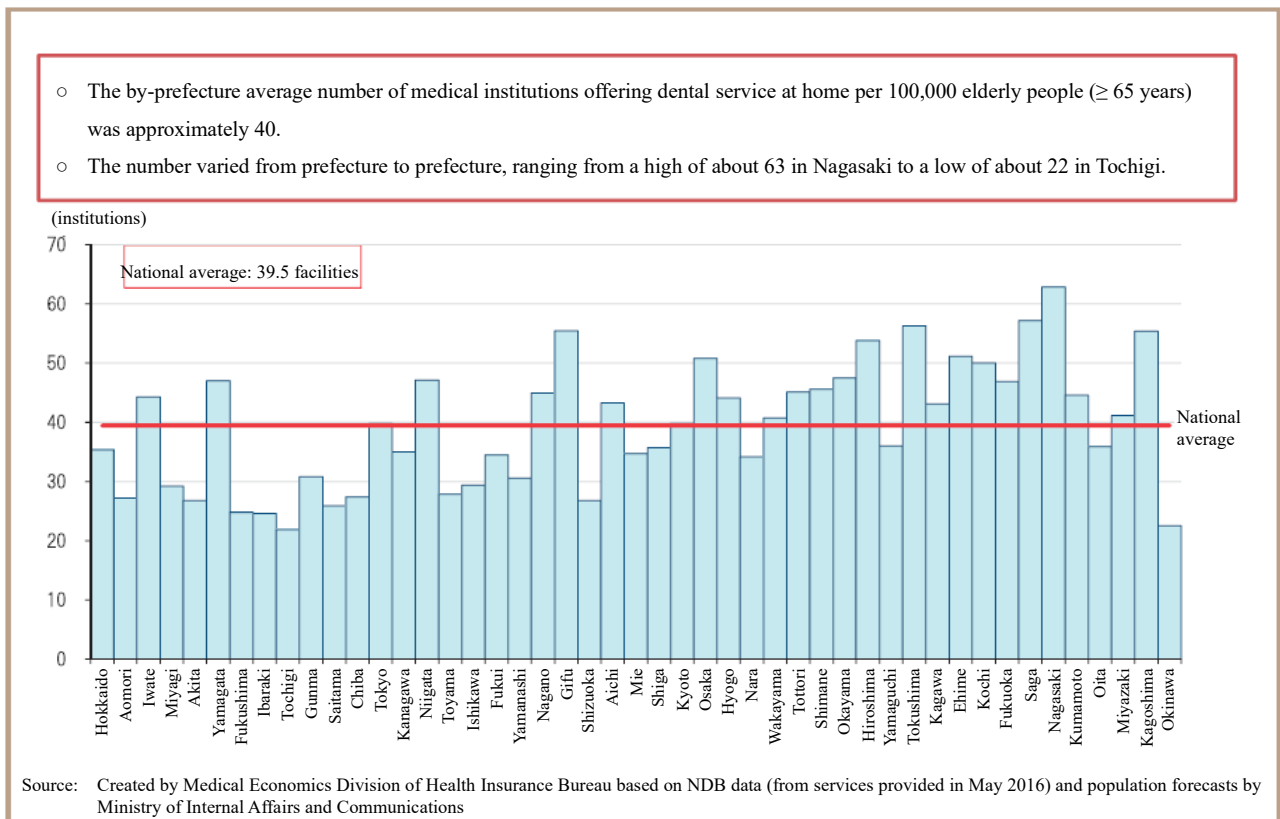


Chart 14 Number of dental institutions offering visiting dental services by prefecture

Cited from data of Ministry of Health, Labour and Welfare's 369th Session of Central Social Insurance Medical Council

Chart 15 Increase in age 75 & older population (2010 - 2035) and modeling of number of medical and dental in-home and long-term care services offered per 1,000 People over 75 years old

Increase in age 75 & older population (2010 to 2035)		Medical service low*		Medical service high*		Total
		Dental service low*	Dental service high*	Dental service low*	Dental service high*	
< 30%	Number of secondary medical areas	75	24	34	13	146
30% to 60%	Number of secondary medical areas	26	15	16	38	95
≥ 60%	Number of secondary medical areas	12	19	8	62	101
Total		113	58	58	113	342

* Medical/dental service high or low indicates that the number of in-home and long term care-service visits per 1,000 population over 75 years old

Source: Survey of Medical Institutions by Ministry of Health, Labour and Welfare) and 2017 edition of Population Projections for Japan (by National Institute of Population and Social Security Research)
 Created by Japan Dental Association Research Institute

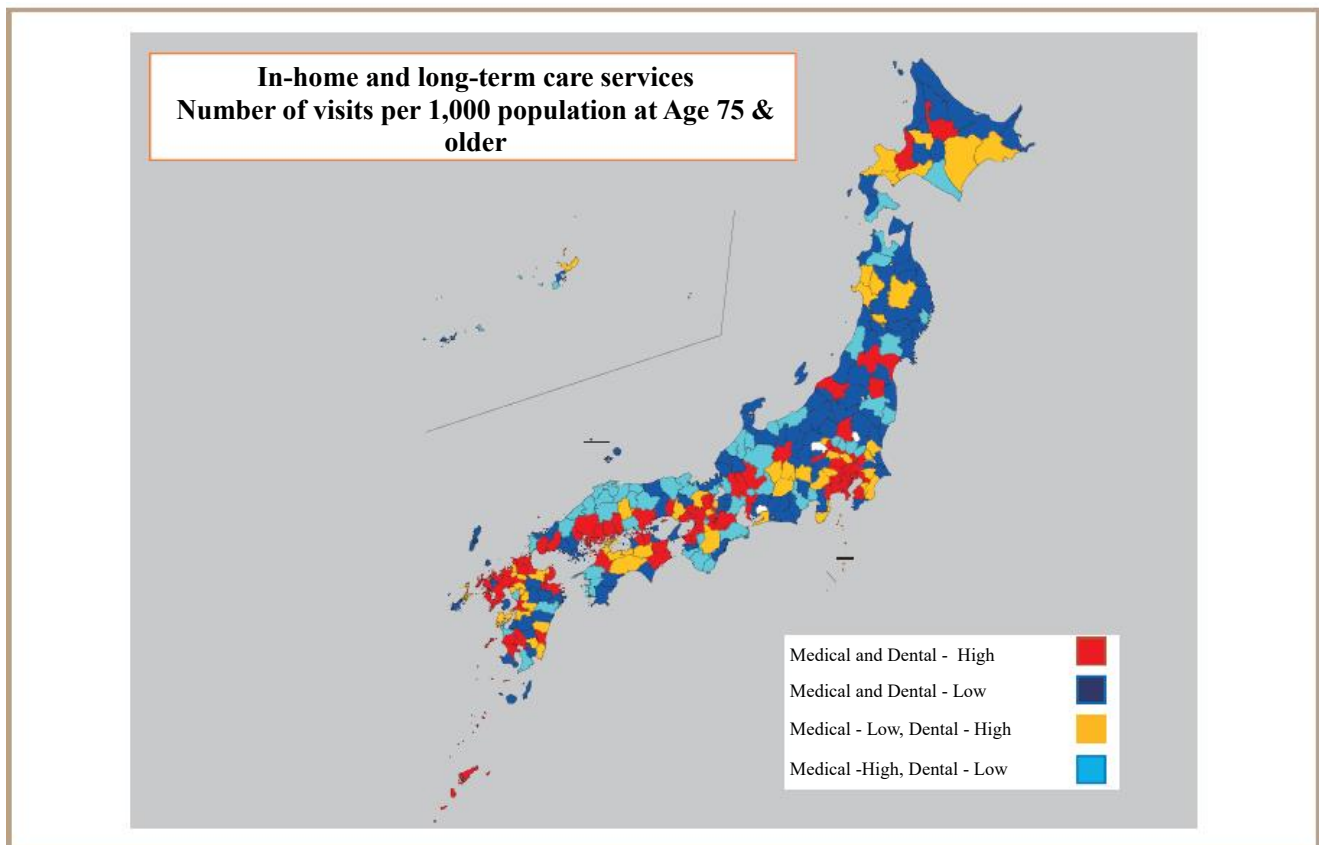


Chart 16 Provision status of in-home medical care and domiciliary dental care

Created by Japan Dental Association Research Institute based on Survey of Medical Institutions (by Ministry of Health, Labour and Welfare)

3 Challenges and future projection for the succession of dental clinics

The Japan Dental Association Research Institute conducted a survey called “Roles and future working styles of family dentists in the integrated community care system” (published in March 2020). This postal mail-based survey of about 10,000 Directors of dental institutions who were members of the Japan Dental Association indicated that more of the Directors were in their 60s than any other age group, with 90% reporting having no

plan or unclear plans to pass along the clinic to a successor (Chart 17).

The survey also found that most respondents had 1 to 4 dental clinics within walking distance of their clinic (i.e., within a radius of about 800 m) (46.5%), and 18.3% had 10 or more clinics within walking distance. A total of 64.4% of respondents felt that there were currently many dental clinics nearby and 4.4% felt there were few clinics nearby. When asked about the number of nearby dental clinics in 2040, 43.7% of the respondents predicted that the number would be the same as it currently is and 30.8% predicted there would be fewer clinics. Compared to the percentage of respondents who answered that there are few nearby dental clinics, seven times more respondents answered that there would be fewer dental clinics in two decades. About 3% of the respondents predicted that there would be almost no nearby clinics (Chart 18).

In any case, the reality is that the succession of dental clinics is not going smoothly, which may make it difficult to ensure sustainable provision of dental care, although there are regional differences.

The most common treatment that the association’s members responded that they would like to incorporate or expand in the future was addressing oral hypofunction, at 34.4% (Chart 19).

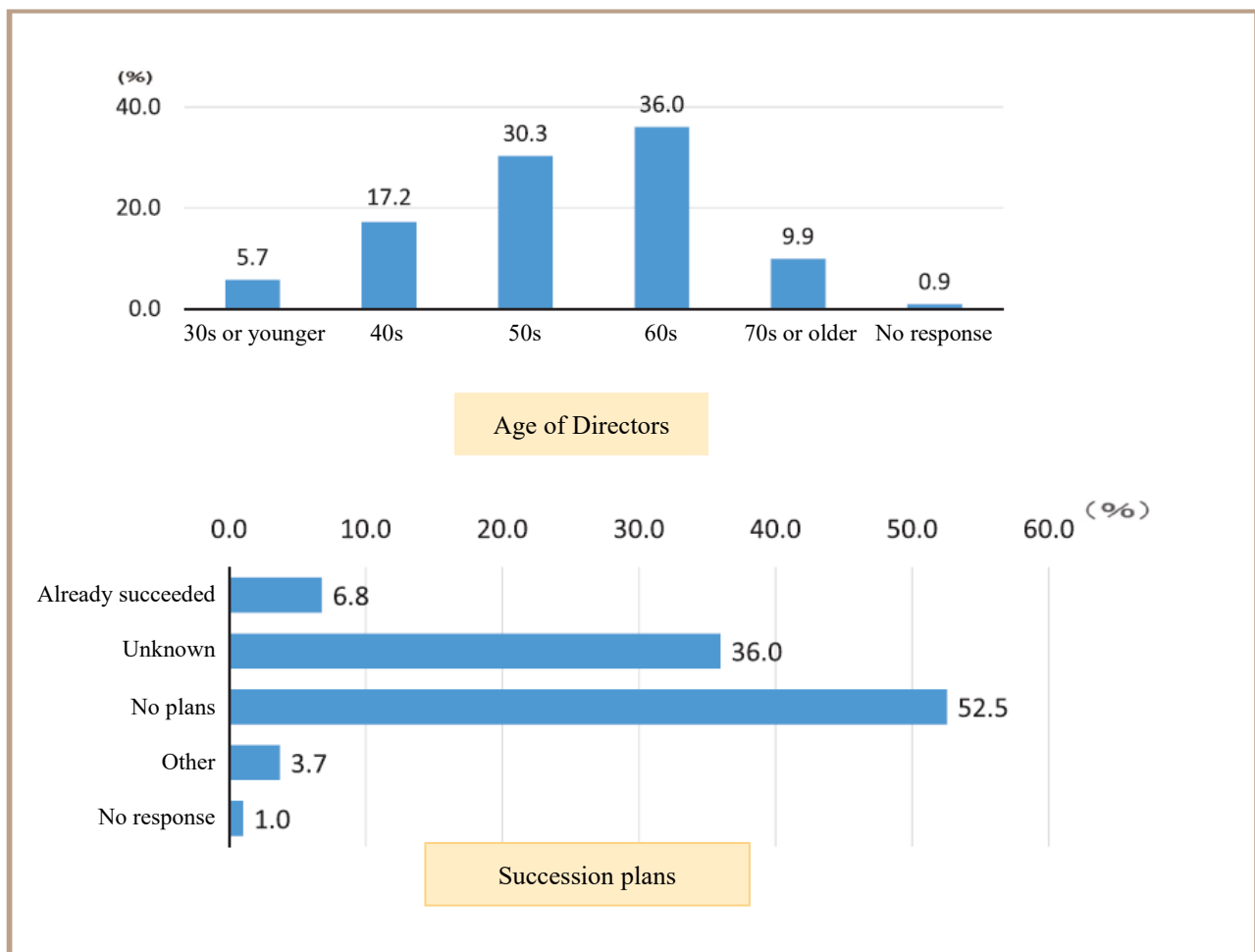


Chart 17 Ages of Directors and succession plans

Survey of roles and future working styles of family dentists in the integrated community care system (March 2020)
Japan Dental Association Research Institute

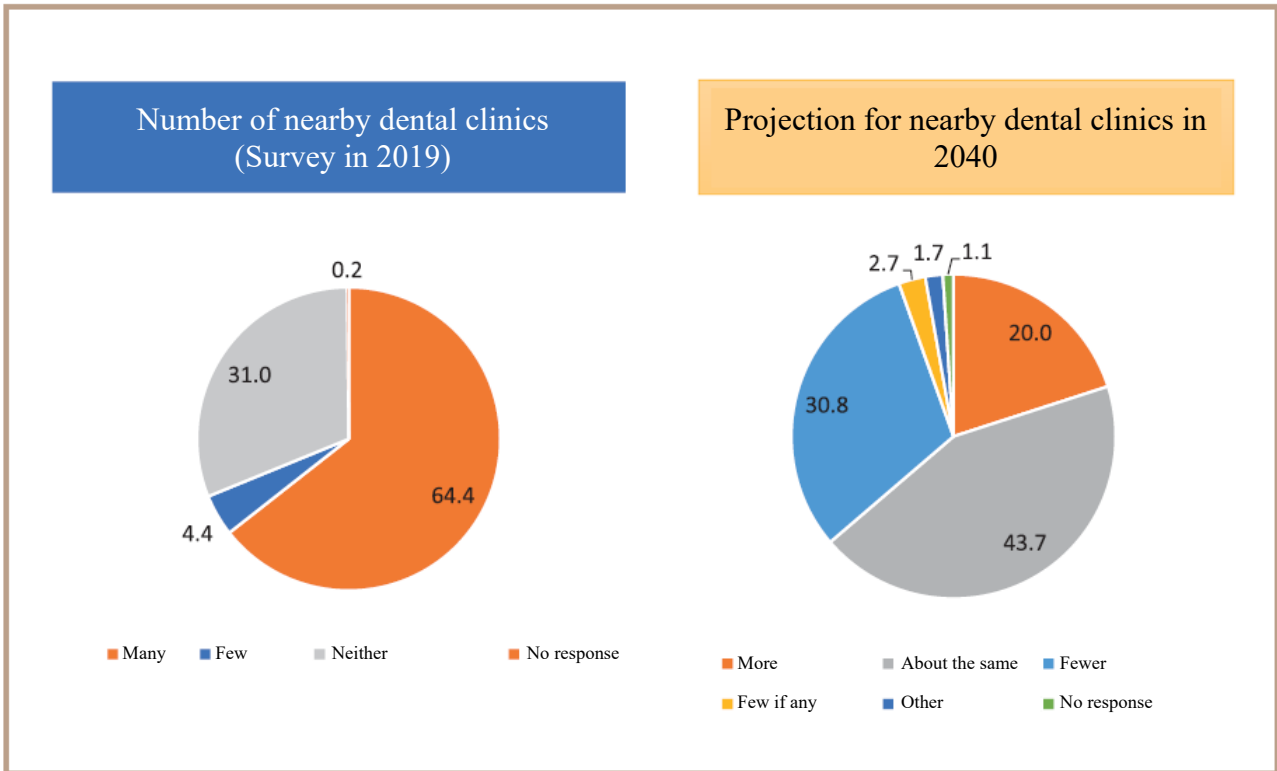


Chart 18 Number of nearby dental clinics in 2019 and projection in 2040

Survey of roles and future working styles of family dentists in the integrated community care system (March 2020)
Japan Dental Association Research Institute

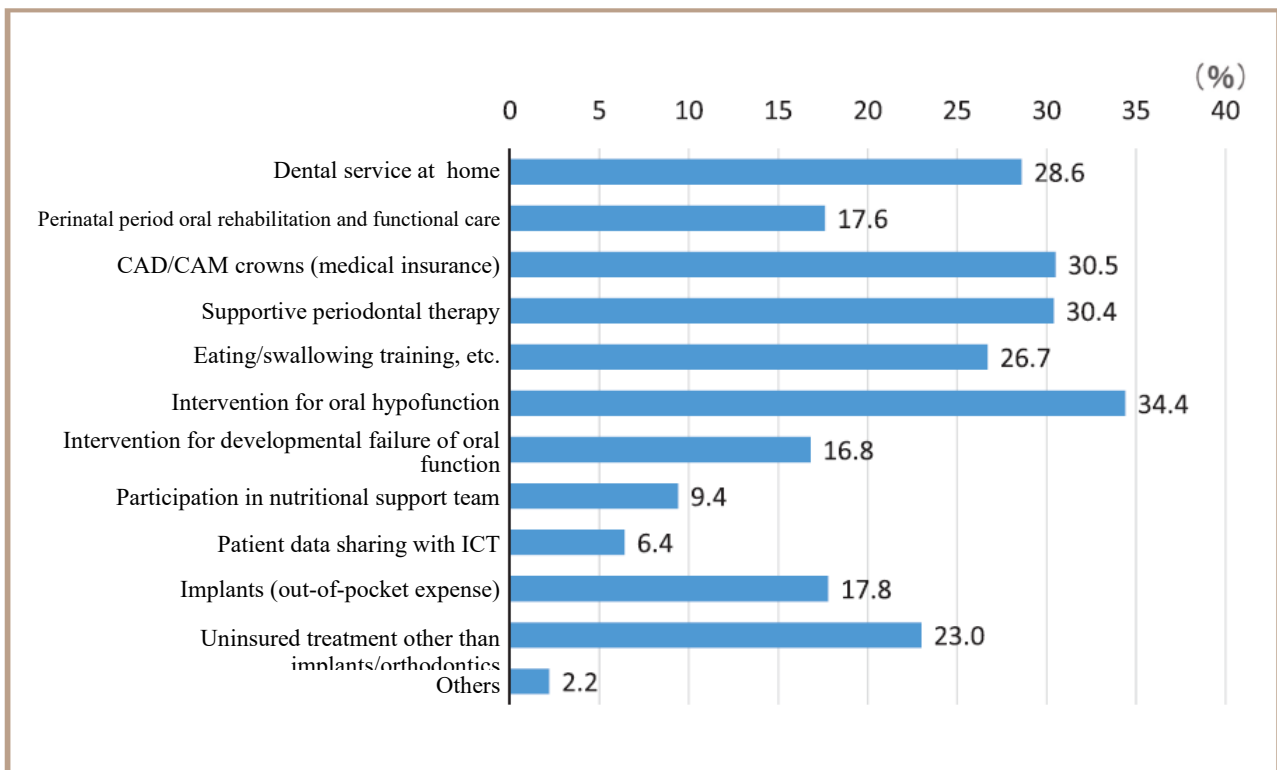


Chart 19 Dental treatments that respondents prefer to introduce or expand

Survey of roles and future working styles of family dentists in the integrated community care system (March 2020)
Japan Dental Association Research Institute

4 Status of dental professions by secondary medical area

We modeled the increase in the age 75 & older population and numbers of dentists and dental hygienists working at dental clinics per 100,000 population from 2010 to 2035 on the basis of data from the 2017 Survey of Medical Institutions and the 2017 edition of Population Projections for Japan by the National Institute of Population and Social Security Research (Chart 20).

There are 101 secondary medical areas where the age 75 & older population will increase by more than 60% over the next 2035 years. Twenty of these areas already have few dentists and dental hygienists, and 35 have few dental hygienists (Chart 21). The shortage of dentists and dental hygienists will become a critical issue, even in urban areas where the age 75 & older population is expected to increase rapidly.

Chart 20 Increase age 75 & older population (2010 - 2035) and modeling of numbers of dentists and dental hygienists per 100,000 population

Increase of age 75 & older population (2010 to 2035)		Fewer dentists*		More dentists*		Total
		Fewer dental hygienists*	More dental hygienists*	Fewer dental hygienists*	More dental hygienists*	
< 30%	Number of secondary medical areas	69	31	13	33	146
30% to 60%	Number of secondary medical areas	22	21	12	40	95
≥ 60%	Number of secondary medical areas	20	8	35	38	101
Total		111	60	60	111	

* Indicates whether the number of dentists/dental hygienists per 100,000 population is lower or higher than the median

Cited from Survey of Medical Institutions (by Ministry of Health, Labour and Welfare) and the 2017 edition of Population Projections for Japan (by National Institute of Population and Social Security Research)
Created by Japan Dental Association Research Institute

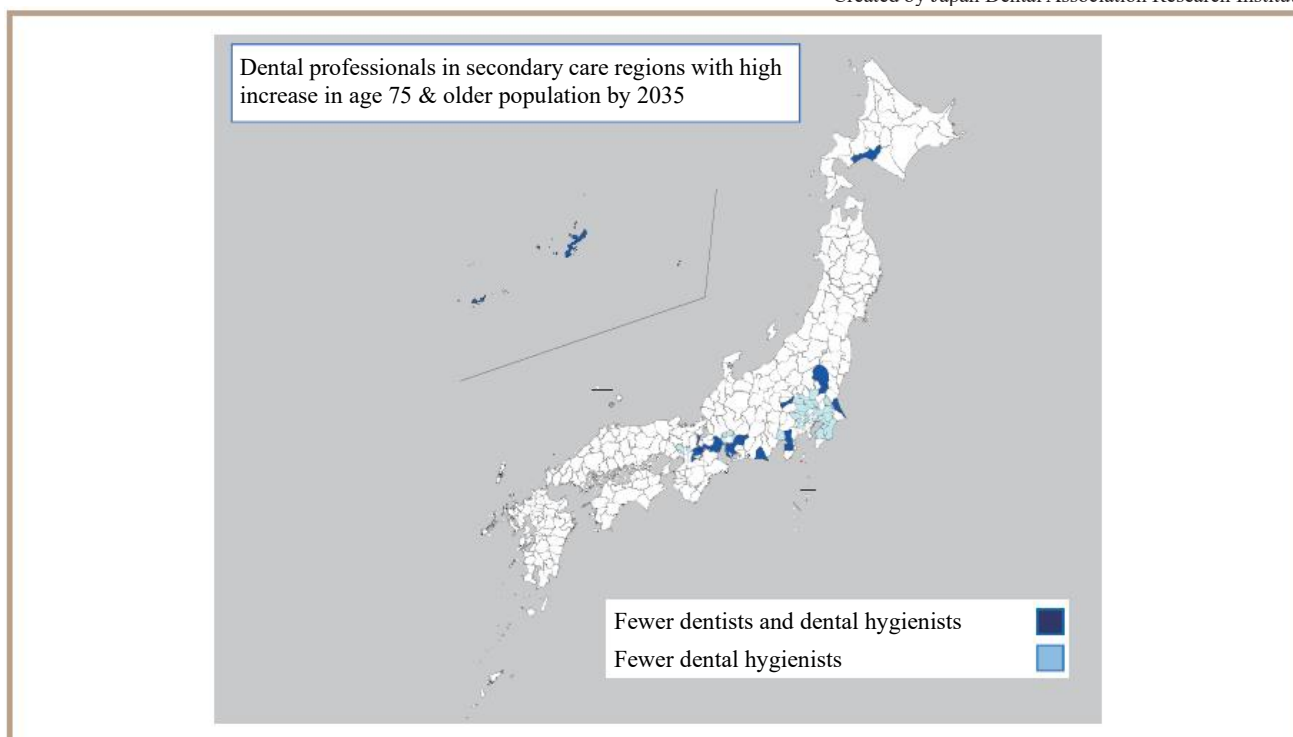


Chart 21 Regions with a forecast of high ≥60% increase in the age 75 & older population from 2010 to 2035 in which the number of dentists/dental hygienists working at dental clinics per 100,000 population is lower than the median

Created by Japan Dental Association Research Institute based on Survey of Medical Institutions (by Ministry of Health, Labour and Welfare)

1) Projection of numbers of dentists

The demand for dental care is influenced by the structure of disease and demographics, but the challenges are to improve preventive management and support the development of oral functions for the younger population as minimizing dental diseases, and to provide smooth dental care for the elderly population, including those who have difficulties to visit clinics and those who receive in-home medical care. Increasingly diversifying demand for dental services is altered by supply-side dynamics. Demand for dental service at home, for example, is easier to accurately characterize in regions with robust systems for domiciliary dental health care. In addition, if there are more medical institutions which are able to provide highly specialized dental care, the demand for such services will become even more apparent.

From this perspective, when considering the supply and demand of dentists, the provision of details and quality of dental care should be emphasized, discussed, and addressed. Such discussion is already underway in the Review Committee on Improving Dentist Qualifications (formed in January 2015) of the Ministry of Health, Labour and Welfare and its subcommittee, the Working Group on Dentist Supply and Demand Issues (February 2015 - April 2016). The committee mainly examined responses based on the environment surrounding dental care and compiled a report.

Given the large disparities in the number of dentists in different regions, national totals are unsuitable for discussions and quantitative analysis of dentist supply and demand. The websites of each of Japan's prefectures now list the number of dentists per 100,000 population in each of their secondary medical areas and these figures clarify which areas have more, or fewer, dentists.

While more than 3,000 dentists were once born each year, the number is currently only about 2,000 due to the stagnant pass rate of the national dental practitioner examination. Not to mention the large number of nurse trainees, 8,000 to 9,000 new physicians and 9,000 to 10,000 new pharmacists are qualified annually.

If the demand for accessible dental care for elderly people who have difficulties in visiting clinics and those recuperating at home continues to increase, will the dental society be able to provide an adequate service without over- or under-responding? Although the quality of dental care must be given highest priority, a certain number of professionals is required. Urban areas are likely unaffected, but dentists are unlikely to open a practice in depopulated areas with few residents. The challenge of ensuring a sufficient number of dentists will be unavoidable in regions that already have few dental care institutions.

With a view to 2040, it is considered essential to simultaneously discuss the future vision of dental care, the expected changes in dental needs resulting from this vision, and the appropriate number of dentists to meet these needs.

It is essential to discuss the issue of supply and demand of dentists from the present stage, because it takes a long time to educate and train dentists. As the projection of number of dentists in Chart 22 shows, the number of dentists per 100,000 population nationwide will remain level for more than a decade (top of Chart 22). As practicing dentists age during this time (bottom of Chart 22) and retire at age 70 or 75, the number of practicing dentists could start declining around 2025. As shown in Chart 23, the proportion of dentists working in dental clinics has more than doubled over the past five decades, and this trend is likely to continue. Most dental clinics, however, are small operations with only one to two dentists. If it is difficult to respond to the diversification of dental need and so-called multi-functionalization, new measures should be promoted, such as cooperation among dental clinics based on service enhancement and differentiation, forming a group of dental clinics under a regional dental association, considering diversifying functionality in the entire region, enhancing Hospital Dentistry services, or developing hospital-clinic cooperation.

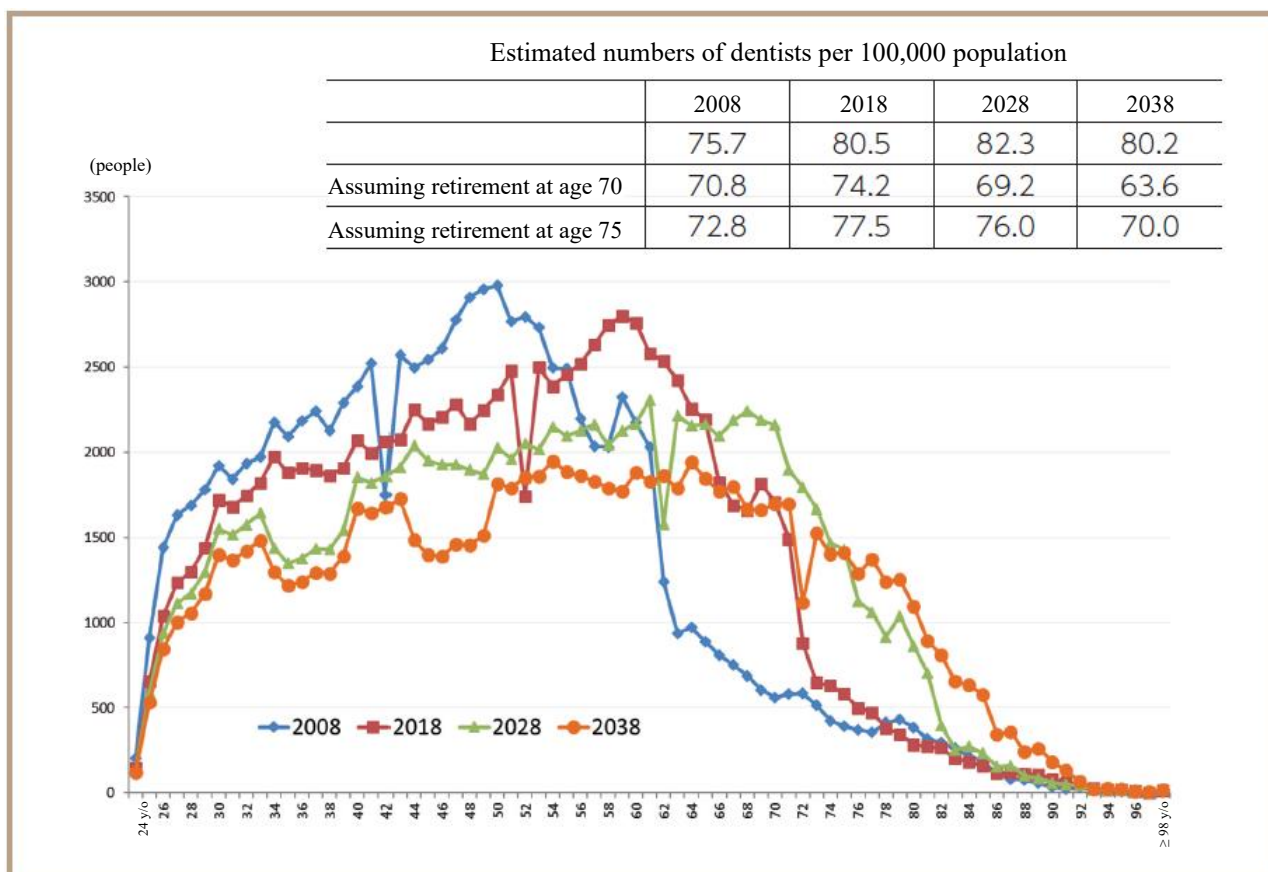


Chart 22 Estimated number of dentists per 100,000 population and future projections to 2038

Top: Created based on numbers of dentists of different age groups in 2008 and 2018

Bottom: Projecting method: Numbers of dentists in 2028 and 2038 were based on data on numbers of dentists of different age groups in 2008 and 2018 and also factored in the past pass rates of the national dental practitioner examinations.

Created by Japan Dental Association Research Institute based on Survey of Medical Doctors, Dentists, and Pharmacists (by Ministry of Health, Labour and Welfare)

2) Challenges to supply-demand balance.....

Hospital dentists play a key role in medical-dental coordination, and also provide logistical support for domiciliary dental health care and receive patients who have difficulties in receiving care, while only about 20% of all hospitals have a dental specialty, and 40% of these hospitals have only one full-time dentist. Moreover, approximately 70 of the nation's 344 medical areas have no hospital dentistry. This problem is compounded by a shortage of administrative dentists to run the dental health administration of prefectures and municipalities. The insufficient supply-demand balance in these two domains warrants measures such as establishing criteria for assigning dentists to hospitals, institutions, public health offices, and local government centers.

In domiciliary dental health care represents a domain that presumably has inadequate infrastructures for providing services, an analysis by the Japan Dental Association Research Institute revealed the proportion of dental institutions that offer dental service at home has increased only slightly over the past few years (although there are regional differences). The sufficiency rate for monthly care visits for all people in need of care, for example, stands at 10.6% (Chart 37).

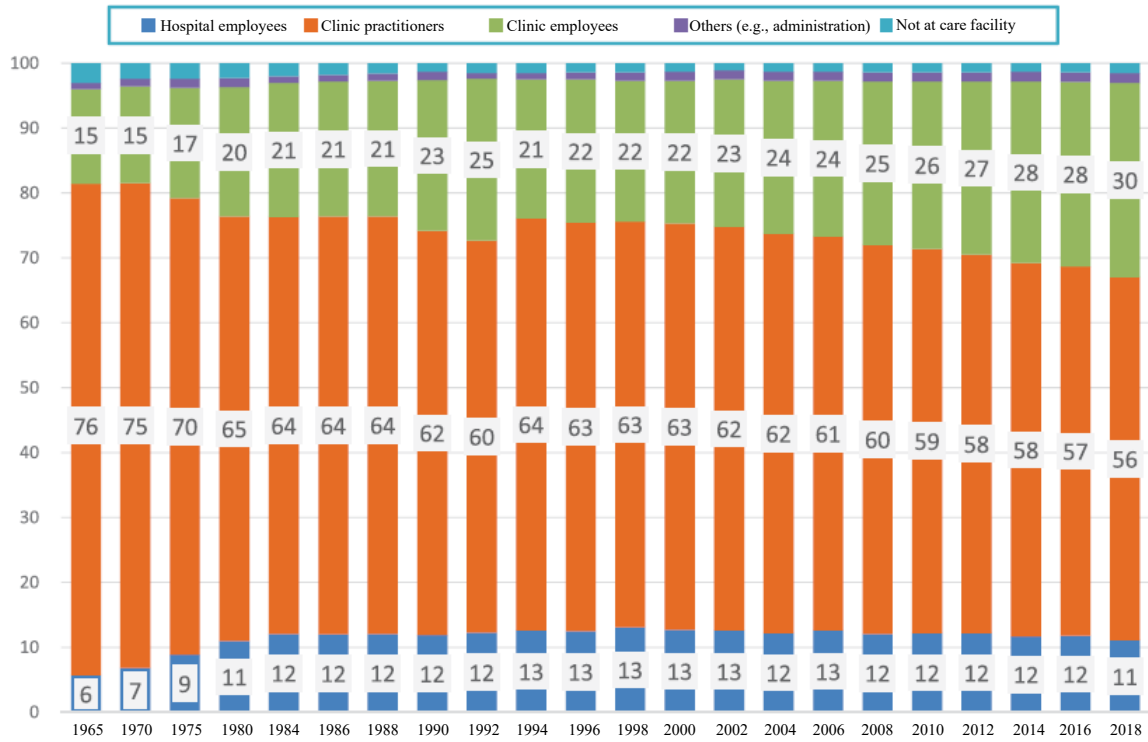
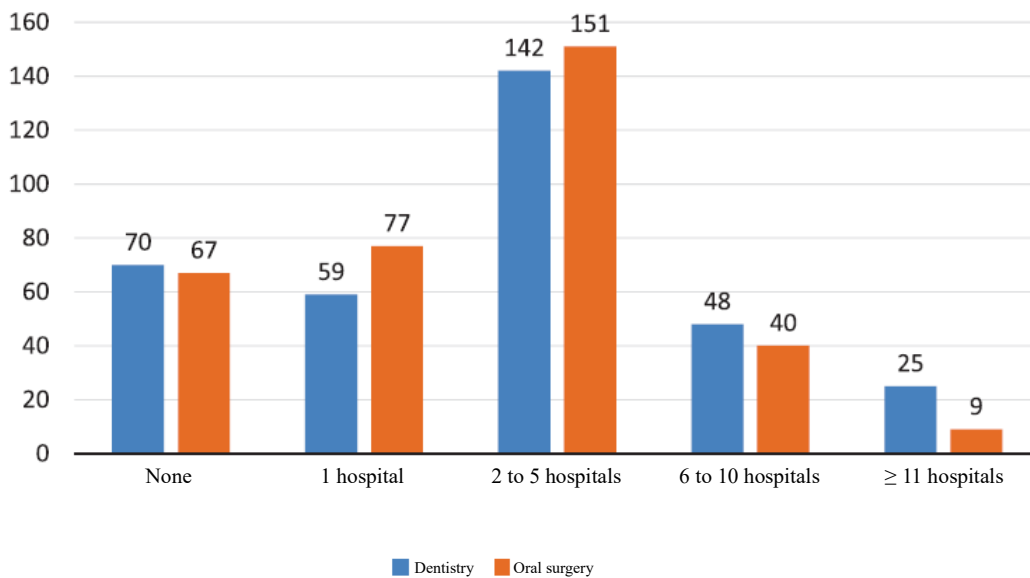


Chart 23 Yearly changes in the percentage of dentists by the main practice

Created by Japan Dental Association Research Institute based on Survey of Medical Doctors, Dentists, and Pharmacists (by Ministry Health, Labour and Welfare)

(Number of secondary medical areas)



Among the secondary medical areas,
 No hospital with department of dentistry: 70 areas
 No hospital with department of oral surgery: 67 areas

Chart 24 Number of hospitals with department of dentistry or oral surgery in secondary medical areas

Created by Japan Dental Association Research Institute based on Survey of Medical Institutions (by Ministry of Health, Labour and Welfare)

With the decline in population and the advent of a super-ageing society, not only the concentration of population in Tokyo, but also the concentration of population in urban areas and depopulation in rural areas are becoming more and more pronounced. Even when a depopulated area has a well-developed network of roads, more and more elderly people there are unable to access healthcare facilities on their own. In depopulated areas, the ageing of dentists and the lack of successors, make the provision of dental care increasingly difficult. Therefore, along with operational support for dental institutions, it is necessary to strengthen the system of outpatient care and dental service at home in cooperation with the long-term care sector, hospital dentistry should be enhanced to provide logistical support, and a scheme should be created so that a hub dental institution with sufficient staff can provide support in depopulated areas.

To begin with considering the supply-demand balance of dentistry, it is necessary to examine the situation from the perspective of dental demand such as changed in the disease structure where the prevalence of periodontal disease is increasing while the prevalence of dental caries is decreasing in each generation of the population, or domiciliary dental health care and oral rehabilitation and functional care of hospitalized patients against the background of the super-ageing population. Although accurate projection of future numbers of patients is difficult, the number and quality assessment of dentists, which forms the basis of the supply system, must be influenced by social institutions and systems. So while we must seek to build systems for periodically evaluating the supply-demand balance for dentists, cooperation with the Ministry of Health, Labour and Welfare, Ministry of Education, Culture, Sports, Science and Technology, universities, and other organizations must also be strengthened in order to establish a system for seamlessly nurturing dentist training systems in line with changing entire social needs. In this sense, the Japan Dental Association and its continuing education system have an important role to play.

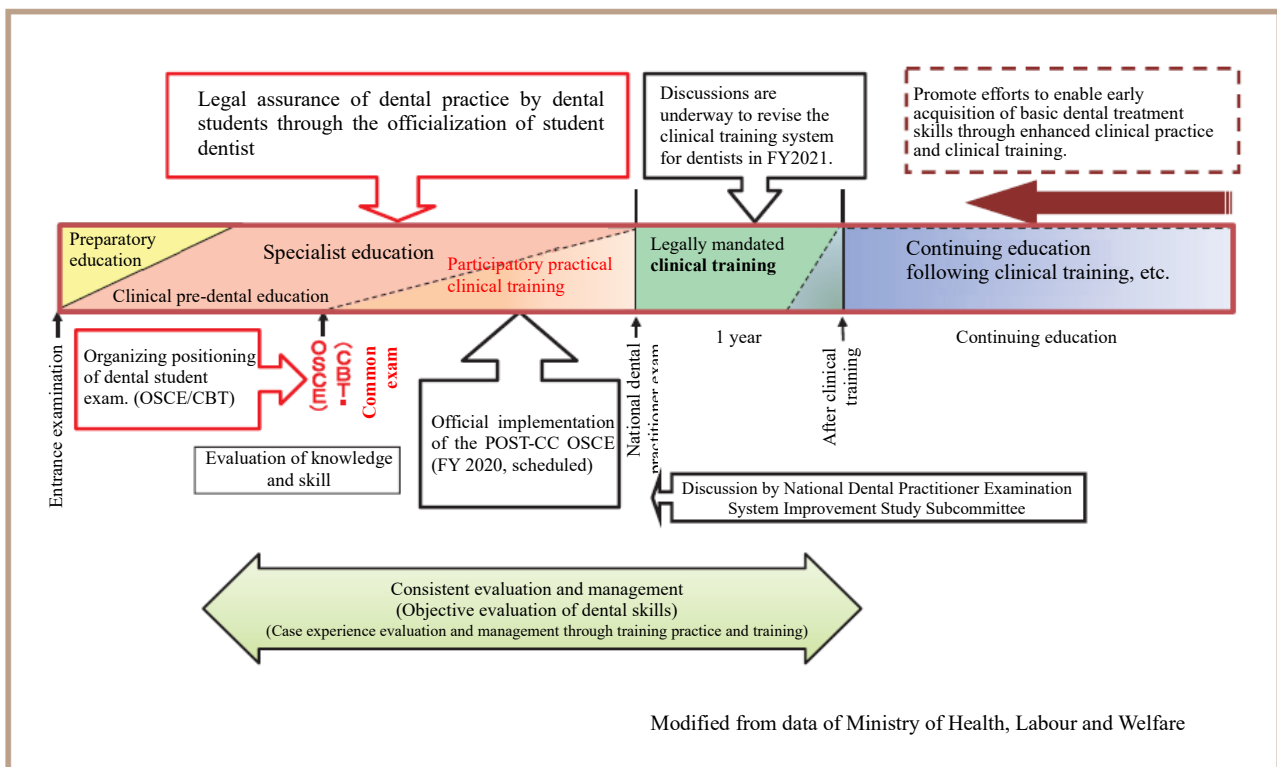


Chart 25 Image of reforms for dentist training

We also annotate the National Dental Practitioner Examination, which also correlates with the number of future dentists. While there are differences among universities/dental colleges, the decline in the rate of students graduating in six years and the large discrepancy between the number of applicants and the number of students taking the national dental practitioner examination are in serious situation, and the pass rate, once over 70%, has declined to 63-66% since the 107th National Dental Practitioner Examination (2014). While the premise is to maintain a reasonable scope and appropriate level as a national examination for dentists and to improve the quality of dentists, there are scattered suggestions that dental education is biased toward classroom lectures and preparation for the national examination. In order to correct this situation and to enhance the clinical training with practice participation, which is extremely important for students who aims to become dentists, the current OSCE/CBT should be placed as the official, and the dental practices performed by students should be given the legal protection as Student Dentist (see page 68) (Chart 25).

3 Five pillars to pursue

In light of the society of 2040, we have positioned the following five major pillars as the initiatives we should aim for in the future in this vision.

- **Contribute to disease prevention and prevention of serious illness, with the aim of extending healthy life expectancy**
- **Promote dental care that benefits communities**
- **Ensure the high-quality and efficient dental care delivery system**
- **Support personal prevention and health promotion**
- **Contribute to entire society by addressing diverse needs**

This chapter will provide an overview, and the fourth section, starting on page 32, will detail specific strategies for implementing the pillars.

○ **Contribute to disease prevention and prevention of serious illness, with the aim of extending healthy life expectancy**

As we enter the era of 100-year life span, extending healthy life expectancy has become a national policy. Recent research is producing more and more evidence showing a relationship between the number of teeth a person has to their overall health, a relationship between periodontal disease and systemic diseases, and a relationship of oral flora to cardiovascular disease. These relationships show the importance of maintaining oral health, including that of the teeth, in extending healthy life expectancy and the first key to this maintenance will be providing opportunities for people to undergo seamless dental checkups suited to the stage of life they are in.

Currently, periodontal disease is the leading cause of tooth loss in Japanese people and prevention measures are urgently needed. The key to maintaining good health in old age is to “eat with one’s mouth.” Given the insufficiency of the periodontal disease screening program now required by law, our goal is to make it mandatory and expand the scope of the program by FY2025. However, the checkups are limited to the early detection of periodontal disease and are insufficient as a “preventive” measure against the onset, recurrence, and severity of the disease. Therefore, we will work to accumulate evidence for dental care that are recognized as effective in preventing serious diseases, such as basic periodontal treatment and regular maintenance through regular dental visits, and link this to evaluation in medical reimbursement.

The 8020 Campaign launched in 1989 has produced a certain level of favorable outcomes and the Japan Dental Association decided in March 2015 to expand this into a new public movement that included measures for oral frailty. However, public awareness of oral frailty remains low. We will take on oral frailty, for example day care services in municipalities under the Preventative Nursing Care/Daily Life Support Project, facilitating practices for preventing oral frailty and restoring the health of the orally frail. Oral frailty, like frailty, which is physical decline, can be postponed and function can be restored if appropriate measures are taken, and the medical model indicates that such “reversibility” is possible. We will also seek, for insurance purposes, to propose new disease names for oral frailty. These and other undertakings will raise the public’s awareness of oral frailty.

Currently, medical insurance does not cover many dental care procedures provided for preventative purposes. While medical insurance coverage would surely help make preventative dentistry more widely available, substantial issues stand in the way. Nevertheless, there is merit in engaging in discussion toward expanding medical insurance benefits for prevention, including what measures can and cannot be used.

○ Promote dental care that benefits communities

With the declining birthrate and super-ageing and dying population placing an urgent demand on expanding community healthcare, family dentists, as providers of community-supporting dental care, will be expected to take on a wide range of roles in this environment. Dentists who provide treatment for patients only when they have dental or oral troubles can hardly be called “family” dentists. A true family dentist is a professional who strives to provide continuous maintenance and preventative care in all stages of life, including pregnancy, and is always there for patients to consult with about their health. In order to train family dentists, it is essential to improve their training, and the local dental associations and other organizations will take the lead in developing a training system.

In order to realize a integrated community care system, aiming to enable the elderly to continue to live their own lives in their familiar neighborhoods, it is essential to promote home dental health care to support those who are recuperating at home. Although approximately 20% of all dental clinics now offer visiting dental care services, we will double this number by FY2040. To this end, in addition to expanding the evaluation of medical service fees, we also aim to add domiciliary dental health care evaluation items in medical plans and make target values mandatory.

With the increase in the number of elderly people, the focus has shifted from “hospital-centered” to “community-centered,” and seamless provision of services from medical care to long-term care is now required in the community. Therefore, not only medical-dental cooperation but also multi-institution and multi-professional partnerships are essential. Oral rehabilitation and functional care are not only prevent aspiration pneumonia, malnutrition, and other conditions that may be life threatening, but also promotes a desire to eat for chronically hospitalized patients, people recuperating at home, and people in need of care. However, there are currently many elderly people at home who have difficulties to receive adequate dental care or oral health care because, for example, they are not connected to dental treatment from medical treatment. As dentists do not sufficiently coordinate with non-physician healthcare professionals and nursing care providers as well as physicians, building community networks is an urgent issue that may be led by regional dental associations.

The “Community-inclusive Society” concept proposed by the national government addresses community as a whole, going beyond categories such as the elderly, children, and disabled people. To realize such an entire society, we must promote community welfare and develop hospital-clinic and other cooperation aimed at expanding oral health care for groups such as disabled people and children on medical care who moved life from facility/hospital to community.

Providing support for children requires not only the support of the child in question but also an active contribution to the support of childrearing by the parents. In a society where it is difficult to say that women can safely give birth and raise their children due to a variety of factors, the dental professionals provide follow-up services for expectant and nursing mothers who are worried about postpartum depression and weaning during antenatal checkups and other occasions. Dental professionals must also become aware that they are in a position to detect the problem of child abuse plaguing society and strive to detect it in its early stages.

Finally, since regional dental associations play a significant role in promoting dental care that supports the community, efforts should be made to strengthen their functions.

○ Ensure the high-quality and efficient dental care delivery system

As medical collaboration advances, regional medical networks and online medical care, as well as online billing and eligibility verification, are becoming more widespread, and further use of ICT is required in dentistry as well. In addition, optical impression, CAD/CAM, AI diagnosis, and robot technology are emerging in dental technology, and these will be used to automate and streamline a series of dental treatment while ensuring quality.

Not only dentists, but also dental hygienists and dental technicians play an important role in dental care provision. As the importance of oral health care in extending healthy life expectancy and maintaining or improving quality of life is being stressed, all professionals must work together, sharing tasks, to facilitate the provision of efficient, high-quality care. However, both dental hygienists and dental technicians continue to face difficulties in recruiting students to take entrance examinations to training schools. To secure human resources, it is necessary to improve job appeals, working environment, and working conditions, and to promote support for returning to work for those who have left.

In establishing a high-quality and efficient dental care system, it is essential that the entire dental society be active. A vibrant dental community can spark new technological innovations. It is also true that at present, there are issues with information gathering and analysis capabilities and technological development capabilities to respond to the diversification of the dental needs of the public, and we will strengthen the “All Dental” initiative that we are currently promoting. The Japan Dental Association will have to cooperate with industry, dental academic societies, and the government to achieve this goal.

In addition, it is presumed that the demand for dental treatment will shift from the traditional treatment-centered approach, such as restoration of tooth morphology, to the management and coordination approach aimed at maintaining and restoring oral functions. In response to these changing circumstances, Japan Dental Association will work with the Japanese Association for Dental Science to propose new disease names for medical insurance purposes that will help new technologies to be implemented and developed.

The enactment of the Act on the Arrangement of Related Acts to Promote Work Style Reform has begun to diversify work styles in entire society. Although the application to physicians and dentists has been postponed until 2024, improved working hours will lead to the provision of quality dental care. We will support comprehensive work style reforms by offering employment support and increasing work efficiency with ICT.

As a basic premise, the qualifications of dentists must be maintained and improved if the profession is to continue to provide high-quality dental care to the public. It is necessary to enhance basic education and clinical clerkship at dental universities/colleges, and to establish a seamless educational system from the national dental practitioner examination to post-graduate training such as clinical training, and then to continuing education. It is necessary for the Japan Dental Association to train high-quality “family dentists” in cooperation with academic societies and to establish their position.

In order to resolve the various issues facing the dental society to improve dental care for the public, it is necessary to collaborate with politics and governments, as well as effectively advocate to the entire society. Individual efforts alone will be difficult and will require the strength of the organization. Since a high organization rate creates a strong position, we will increase the membership organization rate of the Japan Dental Association, which has been an issue for some time, through various measures.

○ Support personal prevention and health promotion

We are committed to lifelong dental and oral health promotion and prevention with the aim of extending the healthy life expectancy and improving the quality of life of the people. To that end the key will be comprehensively deploying a range of measures in individual communities, such as promoting and establishing a proper awareness about daily self-care routines, eating habits, and nutrition; creating an environment where the public can more easily access dental checkups and professional care; as well as enhancing health education and promotional activities.

Furthermore, from the perspective of the sustainability of Japan's medical insurance system, the correction of health disparities among regions and individuals has become a major issue. There is an urgent need for measures to prevent serious diseases (early diagnosis and early treatment) among those who have not yet been examined. In addition, health needs are diversifying, especially among middle-aged and older adults, and industry, dental academic society, and government are required to work together to create a health care system that can accommodate these needs. In the process of systematizing community health services, dental health services will be enhanced. One of these services is food-related support. The importance of eating through the mouth and oral functions will be widely promoted and educated among all generations, not only children and the elderly with impaired masticatory functions.

At the same time, the ageing of society and the declining birthrate have led to a diversification of lifestyles and it has become a major social issue to establish a symbiotic society in which the individual can live in peace and leveraging his or her individuality and abilities. We will clarify the roles of dental care institutions and dental professionals in the context of integrated community care and develop infrastructure to provide continuous oral health care to people with a variety of different lifestyles. In this context, family dentists will play a role to provide initial dental treatment and continuous oral health care to prevent serious diseases, in accordance with changing of local conditions.

In the context of health care education, dental education for preschool and school aged children is an essential starting point, establishing an awareness in children that they are responsible for their own health (i.e., awareness of health promotion). To improve this education, we will develop programs through an uninterrupted revision process, leverage ICT, and expand the range of health education to include universities and vocational schools.

Regarding the provision of dental information that is beneficial for people of their health promotion, there is often a gap between the information that the people are interested in and the information that dentists want to convey to them. Since limited people are in the habit of seeking regular examinations and have sufficient knowledge about their teeth and mouth, we will begin by conveying what people wish to know in a format they want and then expand our advocating efforts to encourage dental examination behavior.

Finally, in order to facilitate the people to voluntarily engage in promoting their health, it is extremely useful to establish a system, Personal Health Record (PHR) for central management of health information such as life course health checkup records. The Japan Dental Association will cooperate in the formulation of the "Standard Code Specification for Oral Examination Information."

○ **Contribute to entire society by addressing diverse needs**

Japan, priding on a society of health and longevity, is moving further toward “The Society with the Dynamic Engagement of all Citizens.” In addition, as people’s lifestyles diversify and the structure of disease changes, social needs for medical care also diversify, and this is also true for dentistry. In recent years, the smooth provision of dental health and dental care to the ever-increasing number of home care patients, participation in cooperation among other professions in regional medical networks, contribution to health education in regional efforts, improvement of safety at sports sites, health support for victims in disaster areas, and early detection of child abuse are just a few of the many examples.

Today, sports are enjoyed by men and women of all ages, and it is essential to promote research and development in sports dentistry to maintain and improve the performance of athletes, mainly in the prevention of dental and oral trauma. In addition, the training system for sports dentists will be strengthened jointly with the Japan Sport Association to support the nation’s health promotion through sports and to contribute to the improvement of healthy life expectancy and quality of life. Furthermore, we will improve the environment so that dentists can be present at domestic and international competition venues.

Dentists are playing an increasingly large role in the actions taken in the many natural disasters which have been happening more frequently in recent years. In order to support the health of disaster victims, the main issues include the provision of urgent dental care, as well as ongoing experiments in oral health management during prolonged periods of condemnation, with a view to preventing disaster-related deaths caused by aspiration pneumonia and other causes. We will work to build partnerships with associated government agencies and groups and further develop human resources for such situations.

As another disaster-related activity, dentists work for identifying people based on dental findings at the request of the police and other authorities. Although there are differences depending on national land resilience and disaster mitigation measures, the preparedness system is not necessarily at a level that can cope with the assumed damage from the Nankai Trough or an earthquake directly under the Tokyo metropolitan area. To increase preparedness, we will continue to build network, standardize workflows, and distribute equipment and supplies centered on dental associations across Japan, to enhance education and training programs; and to work for legislation. In advancing the sophistication of identity verification work, the standardization of dental care information has progressed, and its dissemination will be promoted.

Japan is a developed nation in the field of dentistry. We will continue to conduct and expand international contributory activities, taking into consideration national health strategies such as the Asia Health and Human Well-Being Initiative (AHWIN). Specifically, the program includes the development of human resources who can contribute internationally, support for dental health activities in the Asia-Pacific region and developing countries, and participation in the international standardization of dental instruments, materials, and technologies. We will also cooperate with the activities of the FDI (World Dental Federation).

4 Specific strategies for implementing the pillars

1

Contribute to disease prevention and prevention of serious illness, with the aim of extending healthy life expectancy

1) **Development and expansion of seamless dental checkup through life course**.....

Assessment of current status and challenges

The statutory dental checkup in Japan are the 18-month checkup and 3-year dental examination under the Maternal and Child Health Act, school dental health examination under the School Health and Safety Act, and periodontal disease screenings at ages 40, 50, 60, and 70 years under the Health Promotion Act. Dental checkups for the latter-stage elderly based on the Act on Assurance of Medical Care for Elderly People are also provided as part of the health services by the Extended Association of Medical Care System for Latter-Stage Elderly People. Regarding dental checkups in adulthood, special health examinations are conducted for hazardous jobs defined by the Industrial Safety and Health Act, such as acid erosion, but the types of jobs covered are limited. The act does not mandate dental checkups for general personnel. Therefore, dental health examinations during adulthood are rarely conducted in occupational health. One of the main reasons for the lack of widespread adoption is that management views the implementation of dental checkups simply as a “cost” and does not see the benefits of maintaining employee health, improving labor productivity, and reducing medical care expenditure.

In summary, the only dental checkups mandated by law are those for 18-month and 3-year-olds, school dental checkups for schoolchildren, and special dental checkups at certain workplaces. And a major challenge is that the working-age population from the age of 18, high school graduates to the age of 40, when periodontal disease examinations begin, equals no opportunity for dental checkups (Chart 26). Although the Basic Act on Child Health and Development came into effect in 2019, dental health examinations for expectant and nursing mothers have not yet been legislated and are left to the efforts of local governments and there is a variation in efforts.

On the other hand, it is still fresh in our memories that evidence has come to light that the number of teeth and systemic health, the relationship between periodontal disease and systemic diseases, and the relationship between oral bacteria and cardiovascular diseases, etc., and that the phrase “enhancement of life course dental checkups” has been included in the Basic Policies for Economic and Fiscal Management and Reform in 2017.

In response to this policy, Ministry of Health, Labour and Welfare has been discussing effective measures to implement dental health checkups through the Dental Health Checkup Promotion Project since FY2018. Currently, various projects are being developed throughout Japan, including group dental checkups in the community, individual dental checkups at clinics, and dental checkups at workplaces. The project is studying the items required on the new dental checkup forms and questionnaires and the usefulness of saliva tests. The new dental checkup forms and questionnaires will be standardized to enhance dental checkups throughout life course.

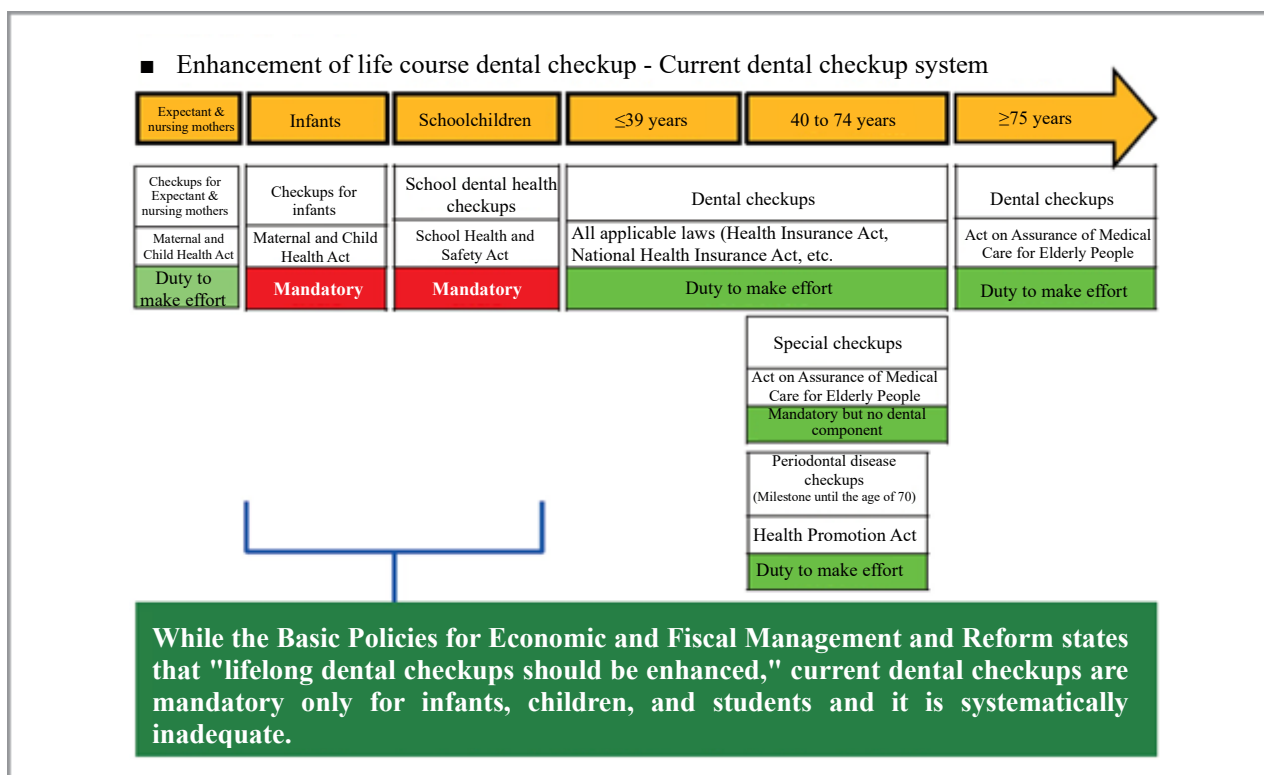


Chart 26 Dental health examination through life course

Direction to be aimed

In the era of 100 years of life, expansion of healthy life expectancy has become a national policy. As mouth function declines, physical function also declines. Therefore, it is extremely important to maintain oral health including teeth, in order to extend healthy life expectancy. To put this into practice, it is essential to enhance opportunities to receive seamless dental checkups through life course. The basis to stay healthy in old age is to “eat with one’s mouth.” People normally start to notice the symptoms of periodontitis, which is a leading cause of tooth loss, in their 40s. Regular dental checkups and appropriate dental and oral health guidance prior to those ages will help control gingivitis in its early stages, which develops in high school and university students, thereby reducing the incidence of periodontitis in the future and preventing the severity of systemic diseases that have been pointed out to be associated with periodontal disease. Accordingly, the school dental checkup program that currently covers students through high school at age 18 should be extended to include university and vocational school students. It is also important to fill the blank in dental and oral health guidance that begins after high school graduation.

In the field of occupational health, the Japan Dental Association, with the cooperation of the Ministry of Economy, Trade and Industry and others, will work to collect examples of employee dental checkups at companies and business sites that are actively practicing health management. Based on those practices, we will then work to promote understanding of the importance of dental and oral care to managerial executives, business owners, and others throughout Japan. In combination with this, we will lobby the national government to establish a system for workers to undergo annual dental health examination offered in different formats beginning when they start working.

In addition to this, with the expansion of dental checkups in adulthood, we will seek to add oral function assessment, which also refers to dental checkups for the latter-stage elderly in checkup items.

Finally, developing a shared platform will be essential for efforts to enhance and expand dental checkups.

Developing a new dental checkup system suited to different stages of life course is an urgent priority that the Japan Dental Association, dental academic societies, and dental industries should work on together. In view of convenience, it is desirable to develop an application, for example, for smartphones which are used by many people, to mount such a dental checkup system on them so that they can easily undergo dental and oral health screenings.

◆ **Actions for Implementation** ◆

- Lobbying for legislation of seamless dental checkups through life course [Aiming to establish a system of universal dental checkups, eventually by 2040]
- Collecting examples of employee dental checkups at companies and business sites that practice health management and advocating the benefits of dental checkups to management teams
- Requesting to add oral function assessment to dental checkup items in adulthood
- Development of a dental and oral health screening system utilizing a smartphone application, etc. [by 2025]

2) Enhancement of periodontal disease prevention measures.....

Assessment of current status and challenges

Caries used to be the leading cause of tooth loss in Japan, but now it is periodontal disease. The National Survey of Dental Disease conducted by Ministry of Health, Labour and Welfare revealed that over the decade from 2005 to 2016, the proportion of people with a periodontal pocket at least 4 mm deep, which is an indicator of moderate periodontal disease, increased substantially in young people from 20 to 40 years of age (Chart 27).

Despite the need to prevent tooth loss, which is a prerequisite for healthy functioning of the teeth and oral cavity, periodontal disease checkups are not mandatory under the Health Promotion Act and are currently only conducted in 10-year age increments after age 40, making periodontal disease measures insufficient from the perspective of disease prevention and prevention of severe disease. In addition, the above-mentioned dental disease survey is conducted every five years (previously every six years), and its target population is based on the National Health and Nutrition Examination Survey. The number of participants in which has been decreasing over the years and it is necessary to consider other surveys that can continuously monitor periodontal disease and other dental diseases.

Originally, with the promotion of research in recent years, the relationship between periodontal disease and systemic diseases is being demonstrated one after another, and periodontal disease is known to cause or exacerbate a variety of diseases, including myocardial infarction, stroke, diabetes, and dementia. If the incidence of those related diseases is reduced, it will contribute to the maintenance and improvement of the nation’s health and reduce medical care expenditure. Therefore, increasing attention is being paid to the prevention of periodontal disease.

Under these circumstances, the government included the following statement in its Action Plan of the Growth Strategy approved by the Diet in June 2019: “There are indications that severe periodontal disease, if left untreated, may lead to the development of diabetes. We need to increase the rate of dental checkups.” Furthermore, the Growth Strategy Follow-Up states, “In order to strengthen measures against dental diseases, such as periodontal disease, which is linked to systemic health, we will expand the opportunities for dental checkups, which are currently conducted in 10-year increments, and enhance dental health and guidance, based on the results of the verification, and begin work by the next fiscal year to reach a prompt conclusion.” Furthermore, the 2020 follow-up statement included “By FY2021, we will reach a conclusion on the direction of reviewing the implementation method of dental checkups (dental health examinations).”

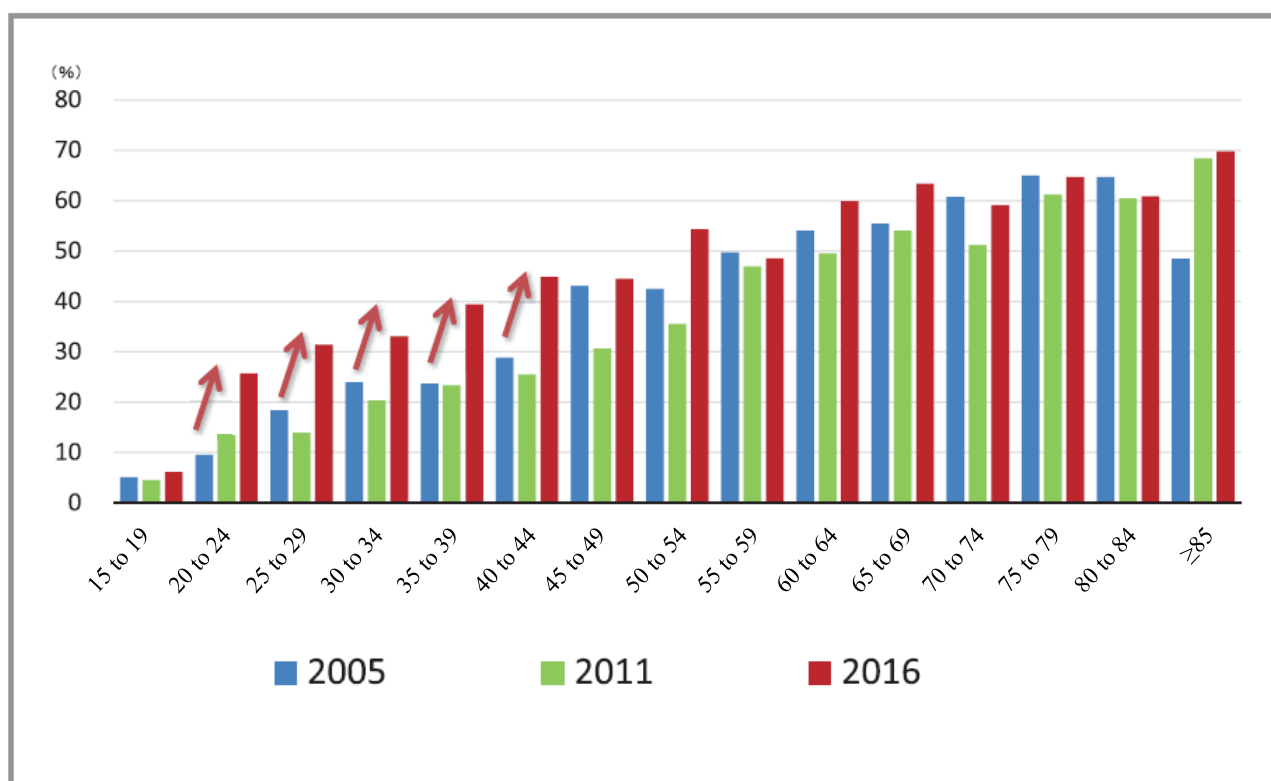


Chart 27 Proportion of people with periodontal pockets at least 4 mm or more

Created by Japan Dental Association Research Institute with data from National Survey of Dental Disease (by Ministry of Health, Labour and Welfare)

With the government policy as described above, in order to promote efforts for the Japan Dental Association in preventing periodontal disease, it is important to present evidence not only from dentistry alone, but also through medical-dental cooperation. However, when we start that cooperation, there are issues regarding tools and cooperation methods. It has been pointed out, for example, that “The dental section of the Diabetes Health Handbook is not fully utilized” and “Medical and dental cooperation using IoT (Internet of Things) is lagging behind.” The future state of the tool should also be considered.

Direction to be aimed

Since the current periodontal disease checkups are inadequate, the goal is to make the checkups mandatory and expand the scope of the disease by FY2025. However, while checkups can only detect periodontal disease in its early stages, periodontal disease can be prevented from developing, recurring, or becoming severe through regular basic periodontal treatment and maintenance, primarily plaque control. Therefore, it is important to ensure the medical fee system not only for checkups but also for these regular dental visits.

The 2020 revision of dental fee established a new preventive treatment for severe periodontal disease for mild periodontal disease which had not been covered by conventional treatment category of Supportive Periodontal Therapy (SPT). We must continue to expand medical fee-related appraisal. In addition, the aim should be to include in medical insurance coverage tests that can identify the status of periodontal disease and new disease names that more accurately indicate the actual status of periodontal disease (e.g., oral biofilm infection, lifestyle-related periodontal disease, etc.). Research and development are proceeding on analytical instruments for detecting and analyzing bacterial biofilm, and it is anticipated that the release of a rapid, inexpensive chairside

bacteria analyzer that is covered by the medical insurance.

The Japanese Association for Dental Science and its affiliated academic societies have begun studying the development of dental innovation to address the 2040 issues, and have compiled the “Innovation Roadmap for 2040” in March 2020. On the topic of periodontal disease, the Road Map calls for the advancement of genetic research based on the establishment of a database of patients with chronic periodontal disease, the development of new clinical markers based on the findings of basic research, and research on and clinical applications of cell transplantation therapy. The Japan Dental Association will support these activities and, when realized, will work with the Japanese Association for Dental Science to advocate the public on new treatment methods and prevention.

◆ **Actions for implementation** ◆

- Mandating periodontal disease screening and expansion of coverage [Aiming to expand coverage by 2025]
- Conducting an elaborate periodontal disease fact-finding survey [Aiming to begin the survey by 2030]
- Conducting surveys and building evidence on periodontal disease and related medical conditions in cooperation with the medical society
- Expansion of periodontal disease prevention in medical service fee, as well as inclusion effort of new disease names and new technologies that will be covered by the medical insurance

3) Promotion of oral frailty measures

Assessment of current status and challenges

The 8020 Campaign, which was launched in 1989, has had desired success to date (see page 4). On the other hand, the average life expectancy, which was originally approximately 80 years, has increased, and now that Japan is entering the era of 100 years of life, the dental society is required to respond to the public’s view of health in a super-ageing society and to take initiatives with a view to the ideal state of dental and medical health and welfare toward 2040.

In March 2015, the Japan Dental Association committed to start a new public movement by adding measures against “oral frailty” into the 8020 Campaign. “Frail” is a concept proposed by the Japanese Geriatrics Society in 2014 as a translation of the English word for “frailty,” which refers to the state of declining physical and mental strength with ageing. Although leaving the condition as it is increases the risk of eventually in need of care, it is believed that appropriate measures can postpone the onset of frailty. Oral frailty is a part of physical frailty, but since the signs of frailty can be clearly identified from the oral condition, the need for oral frailty prevention focusing on the oral cavity has been called for in recent years. In fact, some interesting data have been presented.

In a survey conducted by the University of Tokyo that followed about 2,000 elderly (≥ 65 years old) residents in Kashiwa, Chiba Prefecture for 6 years beginning in 2012, those with oral frailty were 2.41 times more likely to experience physical frailty, 2.13 times more likely to experience sarcopenia, 2.35 times more likely to be certified of needed support/long-term care, and 2.09 times of mortality risk in any cause than those without oral frailty (Chart 28).

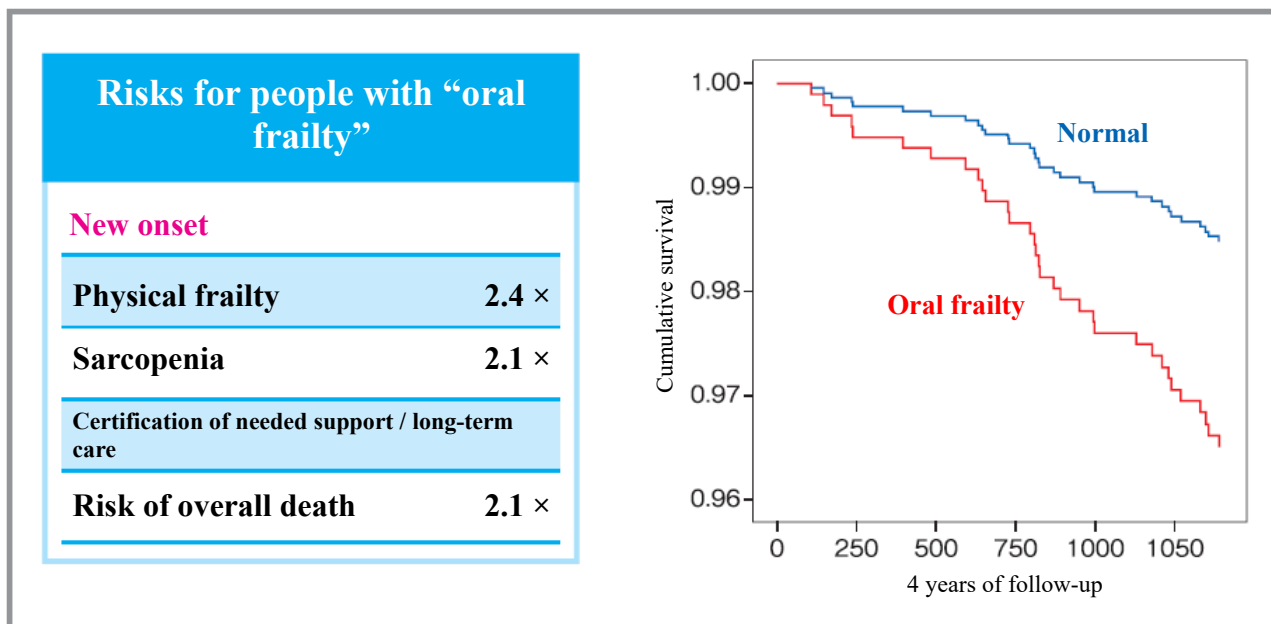


Chart 28 Duplicated deterioration of dental and oral functions: Elderly people with oral frailty

Source: “Oral Frailty as a Risk Factor for Physical Frailty and Mortality in Community-Dwelling Elderly,” J Gerontol A Biol Sci Med Sci (2017). (Katsuya Iijima and Tomoki Tanaka, Institute of Gerontology, University of Tokyo)

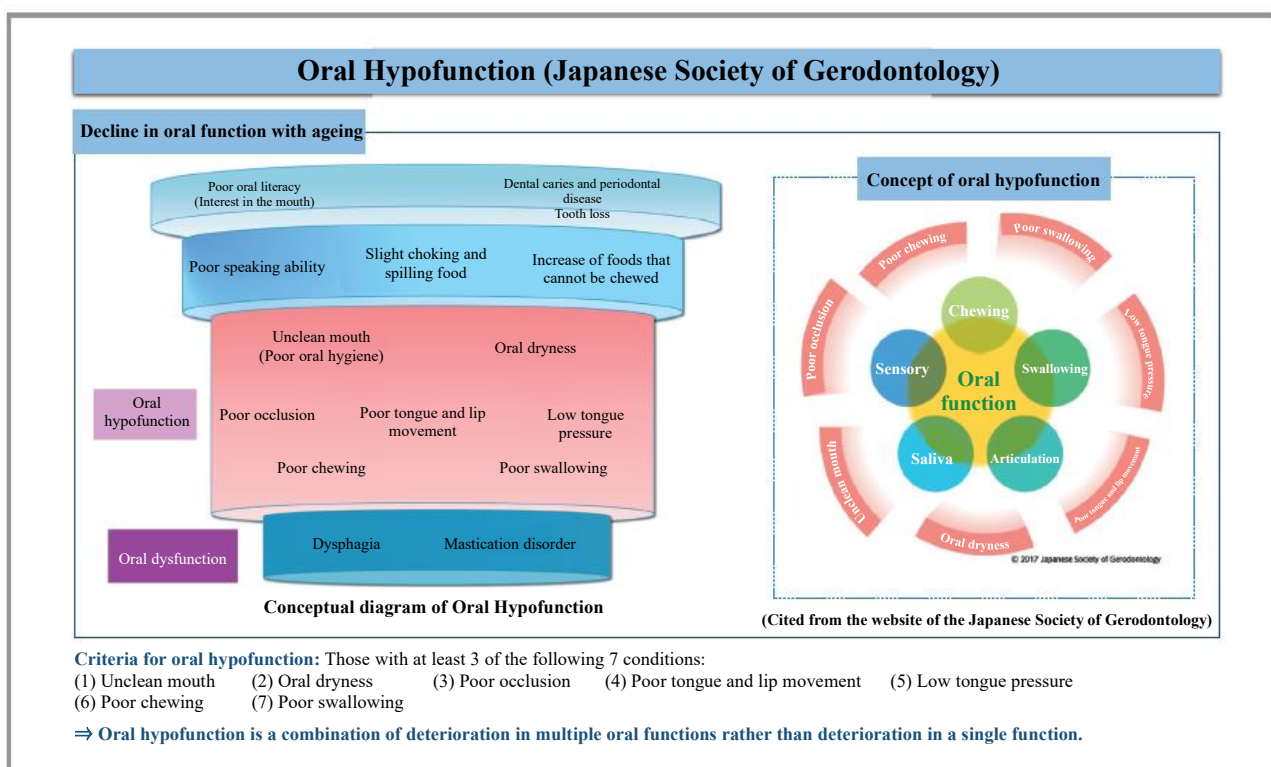


Chart 29 Oral hypofunction (Japanese Society of Gerodontology)

Cited from data of Ministry of Health, Labour and Welfare’s 376th Session of the Central Social Insurance Medical Council

The term “oral hypofunction” was subsequently added as a new disease name in FY2018 revision of the dental fees to facilitate the maintenance and improvement of oral function, and the test and management fees could be billed. Oral hypofunction represents a condition in which oral frailty has progressed to the level of a disease (Chart 29). Concurrently with the revision of the dental service fees, Ministry of Health, Labour and Welfare begun full-fledged measures to oral frailty and started to provide support for initiatives by local

governments. To coincide with these measures, the Japan Dental Association, as a milestone of the 30th anniversary of the 8020 Campaign, issued its “Oral Frailty” leaflet for the public (Chart 30) and the “Oral Frailty Manual 2019 Edition” for dental clinics (Chart 31) from 2018 to 2019. Furthermore, we have issued a leaflet introducing examples of initiatives implemented by the municipalities (Chart 32) and its overview . However, the public awareness of oral frailty remains low.



Chart 30 Leaflet for the public



Chart 31 Oral frailty manual 2019 edition

- Main Contents
 - Part 1 Why Address Oral Frailty and the *day care services project*?
 - Part 2 Municipal services that can be used to control oral frailty in the elderly in the community
 - Part 3 Detailed description of oral frailty
 - Part 4 Responses to oral frailty in the day care services
 - Part 5 Examples of outreach initiatives by dental hygienists for the elderly living at home (National guidelines)
 - Part 6 Oral frailty improvement program
 - Part 7 Oral frailty dissemination and awareness materials
- Published in May 2020
- The Manual and summary leaflet were sent to municipalities and health centers throughout Japan, the Extended Association of Medical Care System for Latter-stage Elderly People, prefectural governments, and municipal dental associations. These materials are also posted on the “For the public (in Japanese)” page of the Japan Dental Association website.



**Chart 32 Oral frailty manual in day services project
Toward implementation of the integrated health care services and long term care prevention for the Elderly: 2020 edition**

Direction to be aimed

We have recently promoted engagement with measures for oral frailty using platforms such as the *day care services* of the long-term care prevention /daily life support total project (total project) by municipalities, seeking

to prevent oral frailty and restore the health of those with oral frailty. In such instances, we will emphasize that oral frailty, same as physical frailty, can be regained with proper intervention.

Dental professionals should inform people of the therapeutic effects and outcomes of oral hypofunction treatment and demonstrate, using therapeutic models, that oral frailty can be restored. It is also necessary to investigate and examine whether preventing oral frailty can protect against severity of other medical diseases and its association with new diagnostic names.

In the future, we will also focus on raising public awareness of oral frailty through educational leaflets for the public, “*Day care service project*” and group dental checkup service, etc., in order to promote understanding of the term “oral frailty” as well as the 8020 Campaign to the public.

The Japan Dental Association will expand oral frailty measures as public campaign through these initiatives to support the basic daily functions of eating, talking, and laughing throughout life. We are aiming to make an entire society of health and longevity a reality with full of smiles.

In addition, in conjunction with measures against oral frailty, the oral function assessment in dental checkups for the latter-stage elderly which has spread nationwide, should be enhanced to achieve synergistic effects.

◆ Actions for implementation ◆

- Enhancing initiatives aimed at increasing the public’s awareness of oral frailty [to achieve the awareness to 50% by 2025]
- Reinforcing efforts to establish oral frailty countermeasures in care prevention services implemented by municipalities [In all prefectures, multiple municipalities will work on oral frailty measures as a long-term care prevention services, etc.]
- Promoting actions to increase the number of prefectures that establish oral frailty-related services in legislation
- Proposing new medical insurance disease names corresponding to oral frailty

4) Expansion of benefits to promote prevention

Assessment of current status and challenges

Currently, the majority of preventive dentistry, i.e., dental care provided for the purpose of preventing dental problems, is not covered by medical insurance. If the insurance coverage is extended, the spread of preventive dentistry will be undoubtedly accelerated. However, there are many challenges to be implemented.

To begin with, a major characteristic of Japan's medical insurance system is that it is based on the provision of insurance benefits for workers' loss of earning capacity, such as diseases or injury outside of work, and takes the form of a specific enumeration of insured accidents to be covered by the insurance. Because benefits are provided when a covered accident occurs, services provided to everyone covered, diseases attributable to personal responsibility, and conditions that are not classified as diseases are not eligible for benefits. Although providing benefits for prevention and health maintenance has long been debated, these categories were not covered under the basic concept of Japan's insurance program.

On the other hand, the long-term care insurance system enacted in 2000 incorporated the concept of preventive benefits from the beginning. However, since it was necessary to set a framework for the eligibility and benefits so that the system would work as an insurance system, the eligibility was limited to those who had received the Certification of Needed Long-term Care, benefit limits were set, and services were planned by a long-term care support specialist (Care Manager). Then, the person with care need selects the service as an insurance benefit, and the insurance system reimburses the cost of the service.

Although the need for prevention involving medical professionals has since been strongly recognized in medical insurance, it is difficult to position the prevention as a medical insurance benefit head-on, and discussions have been held in line with individual medical practices and medical fee items.

Although there have been few opportunities to discuss system-wide revisions for reimbursement because only the medical fee points for individual reimbursement categories are discussed during amendments by the Central Social Insurance Medical Council, the national government reached an agreement in the course of discussion on medical care reform to decide on a basic policy for revising the reimbursement system in 2012, and the decision was specified in a supplemental provision of the amendment act¹⁾. Based on this, the Cabinet approved the Basic Policy on the Revision of the Healthcare Reimbursement System²⁾ the following year.

In this Cabinet decision, the following is described on the dental service fees:

“In addition to the above³⁾, from the viewpoint of maintenance and promotion of oral functions, evaluation according to the functions and cooperation between dental clinics and hospital dentistry, prevention of severe dental caries and periodontal disease, etc., and domiciliary dental care with emphasis on cooperation with community medical care will be promoted.

It is extremely important to note that the aforementioned is written as “prevention of serious diseases,” which means that even if a medical treatment belongs to prevention in a broad sense, if there is an underlying disease, it will be covered as prevention of serious diseases and thus be covered by medical insurance benefits. Although

¹⁾ Article 2 Paragraph 2 of the Supplemental Provisions of the Act for Partial Amendment of the Health Insurance Act (2002 Act No. 102).

²⁾ Basic Policy Under the Provisions of Article 2 Paragraph 2 of the Supplemental Provisions of the Act for Partial Amendment of the Health Insurance Act (Basic Policy on Healthcare Insurance System and Healthcare Reimbursement System) (approved by the Cabinet on March 28, 2003).

³⁾ The following three points were written before this statement: Proper evaluation of healthcare technologies, proper reflection of medical institution costs, and a focus on the perspective of the patient.

discussions have been held on individual technologies, the Cabinet's decision on the prevention of serious diseases in the review of the medical fee system has significance in paving the way for discussions on the revision of the system, and also indicates the future of medical care in the ageing society.

Direction to be aimed

Under the medical insurance, which unlike long-term care insurance has no process for certifying the need for benefits, medical doctors and dentists are responsible for deciding whether benefits are needed. In positioning prevention as a benefit, it is essential to provide evidence of the existence of the disease, the need for regular and continuous intervention, and the resulting reduction in the progression of the disease, thereby reducing medical expenditure and other social costs.

In terms of the dental field, this will require making the concepts of diseases more granular, specific, and broad; building evidence based on data including the outcomes of dental intervention; and creating a system that trains dentists to be able to provide appropriate interventions and provides new, high-quality dental care.

In any case, the needs are increasing due to the ageing of the population, and entire society demands that patients and the public establish continuous relationship with dentists and receive the life course support for the fulfilling of life, and the dental society as a whole is expected to respond to it.

◆ Actions for implementation ◆

- Building evidence related to the prevention of serious diseases
- Discussion of the positioning of preventive dentistry in the medical fee system
- Strengthen efforts to expand preventive benefits in medical insurance

[Implementation in the areas related to oral functions other than periodontal disease by FY2030]

1) Training of family dentists and strengthening of family dentist function

Assessment of current status and challenges

As entire society faces a declining birthrate, super-ageing, and multiple deaths, and the expansion of community healthcare becomes an urgent issue, family dentists who are responsible for community-supporting dental care, are expected to play more broadly role. As shown in Chart 33, Japan Dental Association defines a “family dentist” as “a dentist who has broad insight into medical and long-term care, aiming to maintain and improve the oral functions of local residents throughout their life courses, and can fulfill the responsibilities in community healthcare.” It states that the role of the family dentist is to provide oral health care not only at dental clinics but also domiciliary setting continuously, prevention of serious diseases, and risk management in accordance with life stages. This is only because it is important to implement long-term, continuous oral health care for patients and residents, which will lead to an increase in the healthy life expectancy and quality of life of the public (Chart 33).

Chart 33 Definitions and Perspectives by Japan Dental Association (from Japan Dental Association website)

■ What is a family dentist?

A family dentist is a dentist who not only provides safe and secure dental care but also who has broad insight into medical and long-term care, aiming to maintain and improve the oral functions of local residents throughout their life courses, and can fulfill the responsibilities in community healthcare.

■ Examples of specific roles of family dentists

They will acquire knowledge and skills as family dentists, utilize organization and functions of the district dental association, to meet the demands of local residents by fulfilling the following roles in accordance with changing local conditions and the functions of dental institutions.

- Provision of Initial treatment and continuous disease management as needed to prevent serious diseases
- Provision of continuous and appropriate dental care at home, hospitals, long-term care facilities, and other places where patients are treated, and active participation in oral rehabilitation and functional care, team health care, and discharge conferences
- Cooperation with multiple professions in coordination with related organizations such as government, medical institutions with logistical support functions, and neighboring medical institutions
- Early detection of dementia and child abuse through dental care and collaboration with related institutions
- Participation in public health and hygiene activities such as dental checkups and lectures to the residents
- Participation in long-term care certification boards and community care meetings
- Involvement as a supportive medical/dental care provider for long-term care insurance facilities

What is the actual status of family dentists? The Japan Dental Association conducted the internet-based survey of the Typical Lifestyle People Awareness Survey on Dental Care, targeted 10,000 males and females

15 - 79 years of age in April 2018. A total of 63.0% of the respondents who had received dental care reported having a family dentist. The figure increased with age, peaking at 81.7% in those in their 70s. Fewer than half of those in their 20s (49.5%) had a family dentist (Chart 34).

A total of 12.1% of the respondents stated that they currently received dental treatment, while 31.3% reported not currently receiving dental treatment but regularly visiting for dental health checkups. Those regularly visiting for checkups hovered approximately 20% in those in their teens and 20s (Chart 35).

In the medical fee system, from the perspective of evaluating the functions of family dentists, a system of “dental clinics with enhanced family dental care functions” (*Kakyoshin*) was established in the FY2016 medical fee revision. In the FY2018 revision, the facility criteria were partially revised with the aim of further promoting the family dentist function. In addition to the new requirements for continuous management of caries and periodontal disease to prevent from severity, the content of training was revised to promote the acquisition of the knowledge and skills necessary for family dentists.

As of March 2020, 11,195 institutions, or 16.4% of all dental clinics, had registered under the *Kakyoshin* system.

Direction to be aimed

The “family dentist” that the Japan Dental Association is aiming for is not simply a dentist who treats patients only when they have symptoms, but a dentist who can be consulted on a daily basis regarding the treatment and prevention of disease and health-related issues at various settings in life course, and who also provides appropriate treatment and management continuously.

In order to train such family dentists, it is essential to enhance the training and the local dental associations will play a central role in developing the training system. Those trainings should go beyond mere classroom education to include on-site workshops that utilize community hospital dentistry.

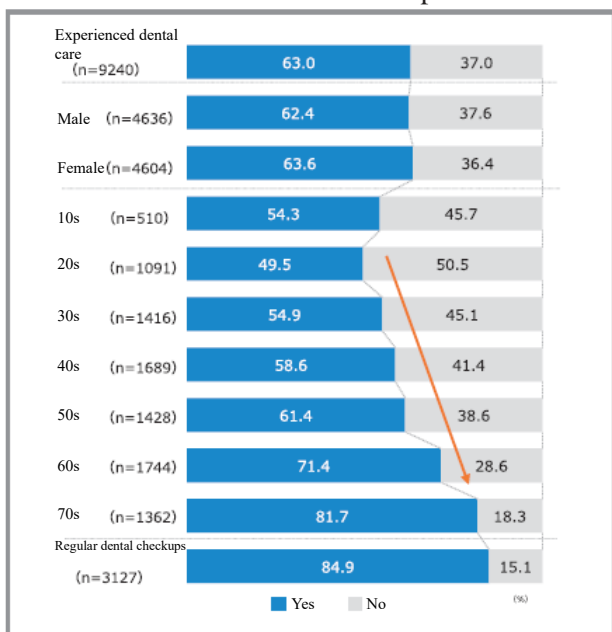


Chart 34 Question whether respondents have a family dentist?

Typical Lifestyle People Awareness Survey on Dental Care (2018)
Japan Dental Association

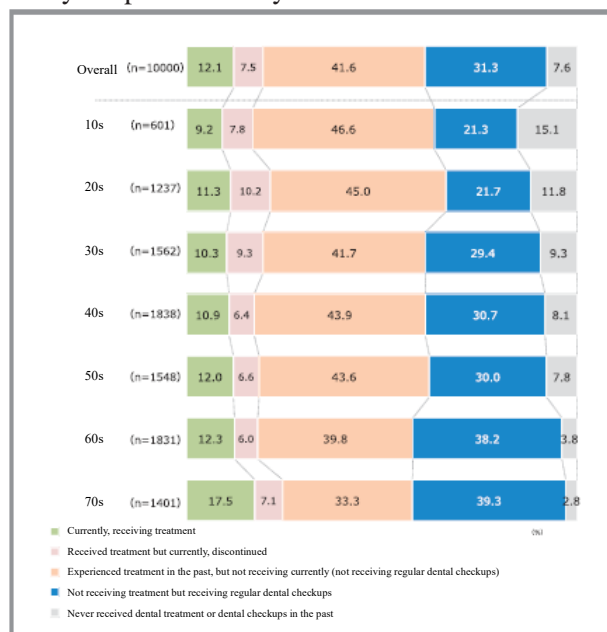


Chart 35 Current dental treatment status

Typical Lifestyle People Awareness Survey on Dental Care (2018)
Japan Dental Association

In addition to developing training system, regional dental associations will also build and enhance community cooperation networks. These networks involve not only cooperation among individual dental clinics, multi-

specialty dental clinics, hospital dentistry, but also cooperation among medical-dental facilities, long-term care facilities and welfare service institutions for the disabled. As a result, it will be easier for family dentists to obtain a variety of information and expand their professional activities.

In order to promote and expand the use of family dentists, the medical fee evaluation suitable for implementing prolonged oral health care would also be desirable. In the FY2020 revision of medical fees, a new evaluation system was established for continuous management of dental disease for more than six months, and as a “prolonged management fee,” 120 points can be added for “*Kakyoshin*” and 100 points for all other cases. We will continue to work toward the expansion evaluation for such medical fees.

Family dentists provide appropriate dental care and health guidance for continuous management and prevention of serious diseases through life course from infancy to old age, but patients often move away from their hometowns when they change school and job, go to school, or work. In those case, family dentists must cooperate with such patients’ new dental care institution to enable continuous treatment and management.

Japan Dental Association will promote the standardization and lifelong storage of dental data and the use of Personal Health Records (PHRs) for self-management of health and medical information, as these are important in the practice of continuous dental management.

Through the above efforts, we will increase the proportion of those who have a family dentist and those who visit the dentist regularly.

◆ **Actions for implementation** ◆

- Developing training system for family dentists
- Building and enhancing regional cooperation networks
- Lobbying for expansion of the medical fees evaluations suitable for implementing prolonged oral health care
- Promoting the standardization of healthcare data, lifelong data storage, and the use of PHRs

2) Promotion of domiciliary dental health care initiatives

Assessment of current status and challenges

In today’s ageing society, the promotion of domiciliary dental health care is essential for the realization of the integrated community care system that aims to enable the elderly to continue to live their own lives in familiar communities, in order to support those recuperating at home. Dealing with oral dryness and pain, which are common issues for in-home patients, and especially dealing with oral pain control for terminal cancer patients, is highly effective as supportive care and leads to improved quality of care. Proper dental care also greatly contributes to the prevention of conditions such as aspiration pneumonia, the prevention of severe undernutrition, and inhibition of dementia progression.

The category of “dental clinics to support home dental care” was added to the medical fees system in 2008, promoting domiciliary dental health care. The Static Survey of Medical Institutions, which is conducted once every 3 years, provides a picture of how many dental clinics, including those that have not reported their institution criteria, provide domiciliary dental health care. As shown in Chart 36, the proportion of dental clinics that provide on-site dental care, including both in-home and institutional settings, has increased slightly, but as of 2017 it was only 21.8%, or approximately 20% of all dental clinics. By prefecture, disparities are seen from a minimum of 13.6% (Okinawa) to a maximum of 40.5% (Nagasaki). As a general trend, the number of cases of dental care services is increasing among dental institutions that focus on dental service at home and dental clinics that have multiple dentists to provide both outpatient and dental service at home.

Assuming that all persons needed long-term nursing care require some type of domiciliary dental care service

once a month, the percentage of sufficiency is shown in Chart 37, and as of 2017, it had only reached 10%.

The number of notifications for support clinic for home dental care (*Shienshin*) under medical fees has been on the increase since its addition in 2008. In the 2018 revision of the medical fees system, the role of *Shienshin* was reviewed to clarify their role and to make their evaluation based on their functions, and they were ranked into two categories. As of July 1, 2018, 606 locations had registered as *Shienshin* Rank 1 and 10,655 had registered as *Shienshin* Rank 2, total of 11,261 locations. It is only about 16% of all dental clinics.

The direction of promotion of domiciliary dental health care has also been set forth in prefectural medical plans. In medical care planning, the prefectural governments had to prepare for a detailed plan regarding “5 diseases, 5 services, and domiciliary care” with the addition of psychiatric diseases and domiciliary care in 2013. A notification issued by the Director of the Health Policy Bureau of the Ministry of Health, Labour and Welfare (on March 30, 2012) specified that domiciliary dental health care should be included in domiciliary care when formulating the medical care plan. As a result, in the 6th medical plan (April 2013 - March 2018), all prefectures had a section to describe dentistry in the domiciliary care section. For the subsequent formulation of the 7th Medical Care Plan (April 2018 - March 2024), another notification by the Director of the Health Policy Bureau of the Ministry of Health, Labour and Welfare (on March 31, 2018) issued that the role of dental institutions (Hospital Dentistry and dental clinics) be specified as medical cooperation system for each of the 5 diseases, 5 services, and domiciliary care when relevant. With this revision, by the notification of the Manager of the Regional Medical Care Planning Division of Health Policy Bureau listed “the number of dental clinics providing dental service at home” and “the number of support clinic for home dental care” as an image of items and indicators for which targets should be set; however, not all prefectures have set numerical targets (Chart 38).

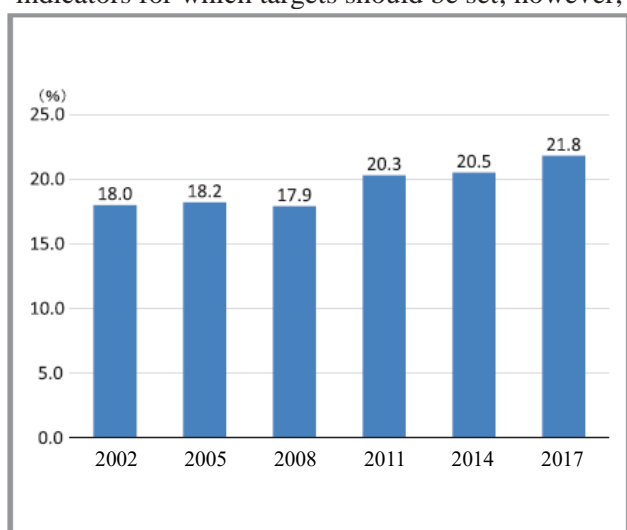


Chart 36 Proportional changes of dental clinics providing visiting dental care services

Created by Japan Dental Association Research Institute based on Survey of Medical Institutions (by Ministry of Health, Labour and Welfare)

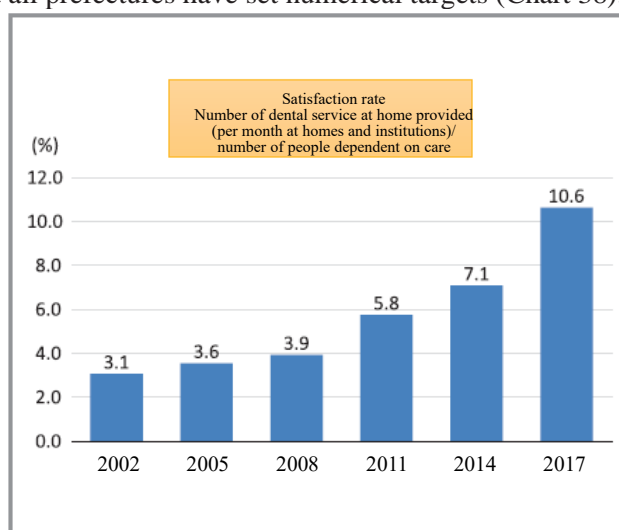


Chart 37 Filling rate of domiciliary dental health care (i.e., Divided the number of dental visits by the number of persons requiring nursing care)

Created by Japan Dental Association Research Institute based on Survey of Medical Institutions and “Status Report on Long-term Care Insurance Service” (by Ministry of Health, Labour and Welfare)

With the 7th Medical Care Plan entering the second half in fiscal 2021 approaching, the Ministry of Health, Labour and Welfare has established a review committee to discuss interim revisions. It was suggested and agreed to add indicators for promoting the establishment of a system for domiciliary dental health care. Although the Medical Care Subcommittee of the Social Security Council will now deliberate this matter, specific indicators expected to be added include the number of cooperative hubs for domiciliary dental health care, the number of clinics and hospitals offering in-home oral hygiene guidance, the number of dental care institutions cooperating with nutritional support teams (NSTs) at patients' homes, the number of patients who received dental service at home in the presence of a dental hygienist, and the number of patients who received oral hygiene guidance at home.

Direction to be aimed

Given that the baby boom generation will start turning 75 years old or older in 2022, establishing and securing systems for providing domiciliary dental health care is a pressing priority. In regions that will experience a surge in the elderly population over the coming decade or so, there is an urgent need to expand the number of clinics that provide dental service at home. Although it is desirable for a family dentist to provide continuous dental care when a patient transitions to home care, only about 20% of all dental clinics currently provide home dental care. We seek to raise this figure to a national average of at least 40% by 2040. Because there are large regional disparities in the demand for and availability of domiciliary dental health care, we will establish target rates for domiciliary dental health care provision for individual medical care areas and integrated community care areas and implement measures suited to the circumstances of individual regions.

In promoting domiciliary dental health care, it is essential that reimbursement be evaluated. It is also important to include the actual amount of reimbursement for domiciliary dental health care into the PDCA of the Medical Care Plan to review the outcomes. Since the presentation of evidence is essential for the expansion of medical fees, efforts will be made to build and collect evidence on the importance of introducing oral health care immediately after the onset of illness for home care patients, the effects of early introduction of oral rehabilitation, and the improvement of quality of life.

**Chart 38 Positioning of dentistry in domiciliary care
(as of November 2018)**

Number of prefectures listing dental care in medical plan	
1. Descriptions of dentistry	47
2. List of dental clinics providing domiciliary health care	11
3. Dental clinics in schematic diagrams	23
4. Numerical targets	32
1) Support clinic for home dental care	19
2) Dental clinic that provide dental service at home	18
3) Number of patients received dental service at home	2
4) Number of dental hygiene guidance at home	1

Survey by Japan Dental Association Research Institute

Related to the medical plan, in the mid-term review of the 7th medical plan, several indicators for domiciliary dental health care were added, and the 8th medical plan, which will begin in FY2024, will continue to add items for evaluation of domiciliary dental health care and require the inclusion of target values.

In addition to these, we will also promote the development of training system to underlie multi-professional cooperation in domiciliary dental health care, seeking to enhance connections to domiciliary dental health care when a patient is admitted to or discharged from a hospital or other institution.

◆ Actions for implementation ◆

- Enhancing actions aimed at expanding clinics that undertake dental service at home [with the goal of at least 40% of all dental clinics offering these services by 2040]
- Building and collecting evidence on domiciliary dental health care aimed at expanding medical fees
- Lobbying for the addition of evaluation items for domiciliary dental health care and mandatory inclusion of target values in the 8th Medical Plan
- Developing training system to underlie multi-professional cooperation in in-home care

3) Enhancement and promotion of community-based health care cooperation by medical and dental cooperation.....

Assessment of current status and challenges

The need for dental care cooperation with community hospitals and medical clinics is increasing in association with patient's ageing and advancement of medical care. For example, it has been shown that perioperative oral rehabilitation and functional care is extremely important for the treatment of serious diseases such as cancer and cardiac disease, from before the patient is admitted to the hospital to after the patient is discharged, and this requires cooperation between medical and dental institutions in the community.

Although medical doctors, nurses, and other medical professionals are beginning to recognize the efficacy of perioperative oral rehabilitation and functional care, which was added to the revision of medical fees in the fiscal 2012, this service is not yet adequately utilized. The calculation of medical fees of this service is possible at general community dental clinics in addition to hospital dentistry, however, the current system allows dental intervention only at the request of a medical institution. The majority of hospital dentistry is doing this calculation, and dental clinics are few.

With the increase in the number of elderly people, medical care is shifting from hospital-based to community-based care. And dental care has an important role to play in this shift for its support of swallowing function and nutrition in those recovering from diseases, recuperating at home, or dependent on care. This is because oral rehabilitation and functional care, which includes swallowing support and nutrition, not only prevents aspiration pneumonia, malnutrition, and other conditions that may be directly related to life prognosis but also promotes the desire to eat for chronically hospitalized patients, people recuperating at home, and people in need of care. However, at present, there are some in-home elderly people for whom dental treatment and oral health care are not sufficiently implemented due to inadequate coordination between medical and dental settings.

In the situation that is hardly mention the cooperation between medicine and dentistry is widely implemented, a questionnaire survey by the Japanese Stomatological Society targeted 2,280 patients who were admitted for treatment at 25 hospitals across Japan in 2017 and 2018 revealed that 72.2% of the hospitalized patients had some type of oral symptom. Despite the fact that 67.5% of the patients thought that they would be able to achieve their desired diet if their oral condition improved, only 18.2% of the patients actually visited a dental clinic, oral

surgery at hospital dentistry, or oral care outpatient clinic and received dental intervention during their hospitalization, showing a large discrepancy. Although dental care is still needed after discharge from the hospital, it was resulted that only 46.1% having a family dentist, 50.2% knowing the dental service at home but have never utilized, and 47.6% do not know the service.”

In the integrated community care system, not only medical and dental cooperation setting, but also cooperation among multiple facilities and professions is important. However, it is not enough to say that dentists collaborate sufficiently with pharmacists, public health nurses, nurses, nutritionists, physical therapists, occupational therapists, speech therapists, social workers, care workers, and care support specialists, other than medical doctors. Although the number of long-term care facilities and visiting nurses that have registered cooperating dental facilities has been on the rise in recent years, the number of dental clinics that cooperate with long-term care facilities are still very few. The role of the above mentioned professions in improving the quality of daily life is significant, and it is essential to strengthen cooperation for promoting self-care in the oral area together on a daily basis.

One of the favorable measures to promote medical-dental cooperation is for the “hospital dentistry” of a hospital, which also serves as a regional base hospital, to function as a liaison between dental clinics and various medical institutions in the community. However, only 20% of hospitals have a dental department (including oral surgery). Such hospitals numbered 1,800 in the 2017 Survey of Medical Institutions. Although every prefecture has hospital dentistry, 70 of Japan’s 344 secondary medical areas lack a department of dentistry, and 67 regions lack a department of oral surgery (Chart 24).

Chart 39 shows the distribution in the number of full-time dentists at hospitals with a department of dentistry as of March 2020 that are registered with the Bureau of Health and Welfare. A small number of dentists perform this function in most of the hospital dentistry, with 83% of hospitals having up to three full-time dentists. Therefore, there are limits to the ability of hospital dentistry to serve as liaisons between dental clinics and other medical institutions in the community.

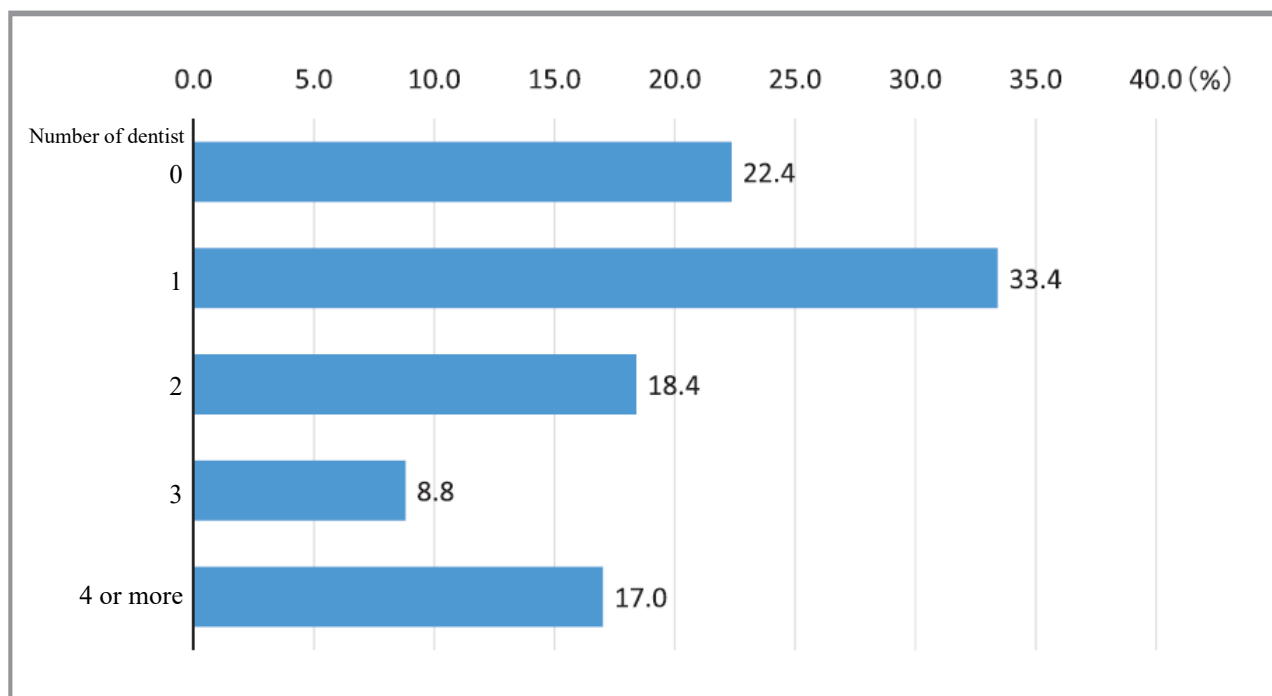


Chart 39 Distribution of numbers of full-time dentists in hospital dentistry

Created by Japan Dental Association Research Institute from data registered with Bureau of Health and Welfare

In addition, dentists have few lectures or training on regional cooperation and multi-professional cooperation in their undergraduate education and post-graduate clinical training, and less opportunities for students and residents to learn the regional medical cooperation and multidisciplinary cooperation has been pointed out as another reason for the lack of cooperation.

Direction to be aimed

Hospital dentistry not only provides back-up support to dental clinics, but also promotes medical and dental cooperation within and outside of hospitals, and is also a place to receive clinical interns. Therefore, to increase the number of hospitals with dentistry, efforts should be made to accumulate examples of medical-dental cooperation and to build evidence. The goal is to have a department of dentistry in about 30% of the nation's hospitals by 2035. We will also work to strengthen cooperation between medical institutions, including core hospitals without dentistry, which is already underway in various locations, and dental care professionals in the community, such as local dental associations.

In cooperation with multiple professions that support patients through community-wide efforts, it is necessary to establish common goals, share responses and progress in various activities and initiatives for the community residents, and complement each other's activities by utilizing their respective expertise. In particular, health and disease/long-term care prevention programs that combine exercise, oral health, and nutrition are beneficial to all generations. As part of activities in line with the integrated community care system, we will work with not only medical, nursing, and care professionals, but also dietitians and rehabilitation professionals, and promote efforts in various settings, including local hospitals, clinics, dental clinics, facilities, and day services.

In order to practice multi-professional cooperation, workshops on multi-professional cooperation will be held under the auspices of local dental associations to deepen the understanding of each profession and to communicate among them. In addition, we will continue to use such occasions in educating multi-professionals on oral rehabilitation and functional care.

In the future, consideration should be given to the utilization of hospital dentistry as a setting for clinical practice and training to learn about community health care cooperation, in order to train dentists who are well versed in community health care cooperation. In addition, we will advocate the revision of the system so that the approach from dentistry to patients hospitalized in medical hospitals is not restricted.

◆ Actions for implementation ◆

- Aiming to place a department of dentistry in approx. 30% of the nation's hospitals by 2035
- Strengthening cooperation with multi-professionals and local social resources in line with integrated community care system
- Enhancement of education and training on multi-professional cooperation

4) Enhancement of cooperation with long-term care and disability welfare related institutions

Assessment of current status and challenges

In addition to promoting the establishment of integrated community care system, it is necessary to realize a "regional cohesive society" in which local residents and diverse actors support each other and work together to create the livelihood and purpose of life for each resident and the community. In a regional cohesive society, in

order to revitalize the community by promoting disease prevention and health promotion, and to make efforts toward disease and long-term care prevention and health promotion independent and sustainable, it is important to fully utilize local resources and implement them effectively and efficiently through comprehensive efforts (Chart 40).

In order to create a society in which everyone has a role and a purpose in life, it is important to revitalize the community by promoting disease prevention and health promotion. In order to extend healthy life expectancy looking ahead the era of 100 years of life, it is necessary to establish an integrated system to prevent long-term care and frailty (exercise, oral health, and nutrition), as well as prevent lifestyle-related diseases and other diseases from becoming serious, centering on day care services for the elderly in the community. As dentistry, it is expected to contribute to the regional cohesive society in the future from the viewpoint of health promotion and care prevention as well as dental care. In addition, in order to realize multigenerational, multifunctional, and comprehensive welfare services that match local conditions, and to make it easier for the elderly and children and persons with disabilities to receive services at the same facilities, a “symbiosis-type service” was established in both the long-term care insurance and disability welfare systems in FY2017.

Many challenges facing the long-term care insurance system and long-term care services include the shortage of intervention by dentists in the process of certification of needed long-term care, a low frequency of long-term care prevention services, home care management and guidance provided by dentists, dental hygienists. And enhancement of oral-related services in long-term care facilities, promotion of cooperation with dental clinics and promotion of response to nutritional support are also included. As we aim for a regional cohesive society, we need to promote community welfare and regional cooperation, such as cooperation between hospitals and clinics, to enhance oral health care for people with disabilities and children with medical care needs, including those who have moved to the community from institutions and hospitals, etc.

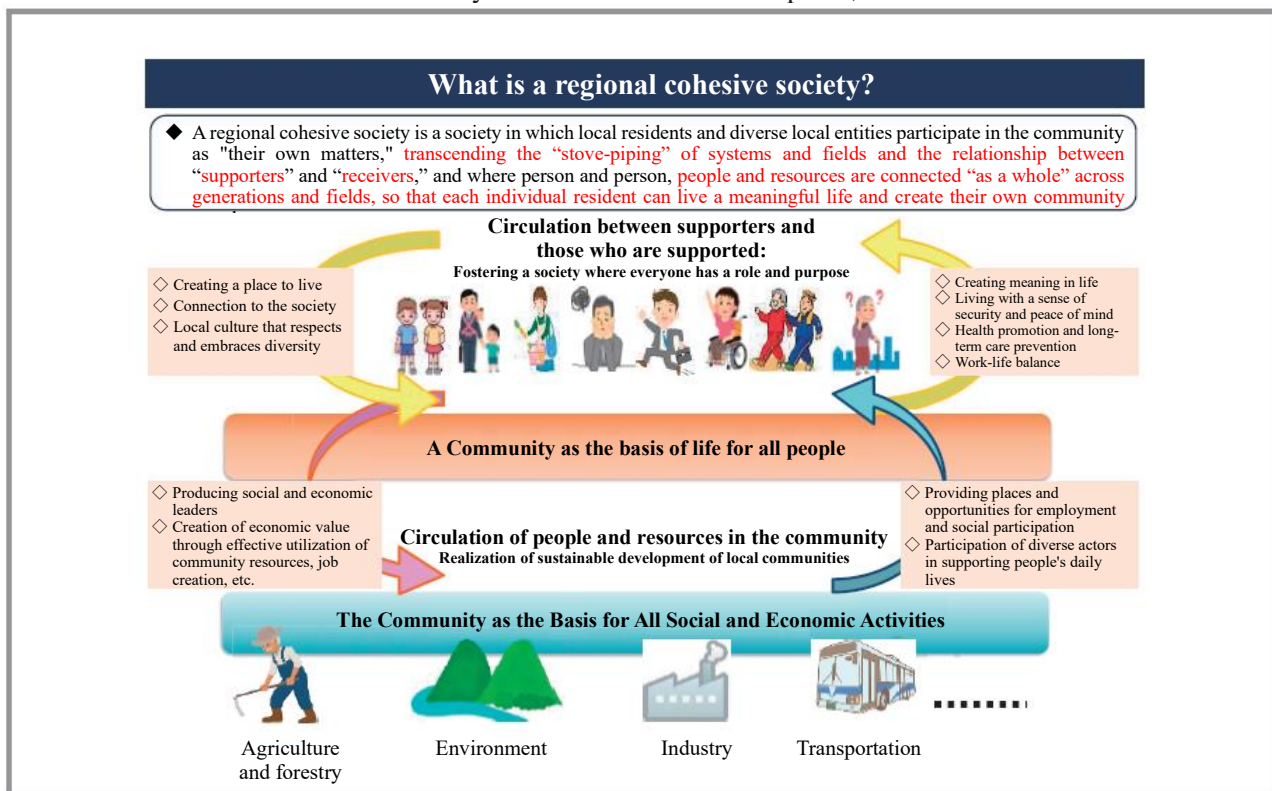


Chart 40 What is a regional cohesive society?

Cited from Final Summary of Regional Cohesive Society Promotion Council of Ministry of Health, Labour and Welfare (December, 2019)

Children requiring medical care are the children with disabilities who continue to use ventilators, gastric bandages, etc. after long-term hospitalization in NICUs, etc., and require daily medical care such as suctioning of phlegm and tube feeding. The number of children requiring medical care in Japan is estimated to be 18,000 (2017 Health and Labour Sciences Tamura Team Report). This includes medically cared children who can walk as well as bedridden children with severe physical and mental disabilities. They require daily medical care and medical equipment, including tracheostomy management; mechanical ventilation management; aspiration; home oxygen therapy; gastrostomy, enterostomy, or gastric tube feeding; total parenteral nutrition to survive. Continuous oral health care and support for families are very important. The Child Welfare Act was amended in May 2016 to read, “Local governments shall endeavor to take necessary measures to establish a system for liaison and coordination with organizations that provide support in health care, medical care, welfare, and other related fields, so that children with disabilities who wear a ventilator or who are in need of medical care in order to lead their daily lives can receive appropriate support in healthcare, medical care, welfare, and other related fields in accordance with their physical and mental conditions.”

In the future, regarding dental response to children requiring medical care, it is necessary to promote cooperation between the government and dental associations, clarify the role of family dentists, promote pediatric domiciliary dental health care, promote community dental care cooperation with hospital dentistry, dentistry for the disabled, etc., and work with pediatric home physicians and visiting nurses for children requiring medical care. In addition, it is desirable to understand the status of districts that are making advanced efforts in areas such as pediatric domiciliary dental care, and to make these services known to the public.

Direction to be aimed

In order to promote dental healthcare for the rapidly increasing number of people in need of care and children/persons with disabilities, understanding, participation, and cooperation between the long-term care insurance system and dental and oral health-related services, as well as comprehensive support for all generations and all target communities toward the realization of a regional cohesive society, are required. In light of this, under the strengthening of cooperation between the administration and regional medical associations, etc., prefectural dental associations and regional dental associations are playing a central role in the cooperation between dental clinics in the daily life area, and with district oral health centers, dental clinics for disabled children and persons, and dental and oral surgery departments of major hospitals. Also needed is an understanding of community management efforts by local government entities; characterization of social resources of the community as part of the integrated community care system such as medical, nursing, long-term care, and rehabilitation services, health and welfare services, and prevention for long-term care and supporting daily life; advocating for the importance of oral health care; and promoting cooperation with regional dental associations and dental clinics. Furthermore, human resource development of dental professionals involved in community health care and welfare and promotion of family dentistry functions are essential for multi-professional cooperation.

◆ Actions for implementation ◆

- Promotion of cooperation with dentistry in the care need certification [by 2025]
- Promotion of cooperation with dentistry in community support programs [by 2025]
- Encouraging regional dental associations, dental clinics, and dental professionals to participate in community care meetings
- Promotion of cooperation between long-term care services and dentistry, provision of information in the oral domain and clarification of benefit coordination
- Response to dementia
- Enhancement of human resource development and training of dental professionals and food support to the people with moderate and severe diseases

5) Expansion of support for children and child-rearing starting from dental care.....

Assessment of current status and challenges

The annual number of births in our country was approximately 2.7 million during the first baby boom and 2.1 million during the second baby boom, but the number of births in 2016 was 976,978, falling below 1 million for the first time. This number is continuing on a gradual downward trend, estimated to fall to 742,170 births* by 2040 (*The birth median projection in Population Projections for Japan in 2017, published by the National Institute of Population and Social Security Research).

The problem with Japan's declining birthrate is that it, coupled with the concurrent population ageing, leads to a marked decrease in the working population, thus causing a decline in Japan's economic vitality. The main causes of the declining birthrate are various, including economic insecurity due to the spread of irregular employment, women's higher academic background and increased participation in the workforce, and later marriage among the marriageable age generation. Due to these recent changes in entire social structure, an increasing number of mothers are becoming more anxious about childcare even after giving birth. Cases of postpartum depression and single-parent families living in economic poverty are not rare. In relation to the economic poverty, the National Health and Nutrition Survey which was conducted in November 2018 by the government showed that the proportion of people with less than 20 teeth was significantly higher for both men and women with household incomes of "less than 2 million yen" and "2 million - 6 million yen," compared with household incomes of "6 million yen or more." The survey results indicate that there are differences in lifestyle and dietary habits depending on income, leading to oral health disparities.

In June of 2013 the "Act on the Promotion of Policy on Child Poverty" was issued (enacted in January 2014), with the "General Principles of Policy on Child Poverty" formulated in August 2014. Also, the "Act on Self-reliance Support for Needy Persons" was issued in December 2013 (enacted in April 2015). As a measure to combat poverty, in many cases, it is essential not only providing economic support that leads to self-reliance, but also preventing social isolation and eliminate disparities in the use of various social resources. For example, the "children's cafeteria" projects that have been developed across Japan in recent years provide not only daily life support in the form of providing meals, but also serve as an entry point to solve problems through rebuilding of social ties and cooperation with the local community.

For children, a total of 159,850 cases of child abuse were addressed in child consultation centers across Japan in fiscal 2018, the highest number ever recorded (Chart 41). Child abuse is a serious infringement of the rights of children and the whole of society must take measures to prevent it. Considering Article 5 of the Child Abuse Prevention and Treatment Act states, "dentists should recognize that they are in a position to detect child abuse and must contribute to its early detection," local dental associations must actively cooperate with child consultation centers, comprehensive support centers for families with children, and other relevant organizations to promote preventive measures against child abuse.

Direction to be aimed

The first step that the dental society must take in expanding support for children and child rearing, starting with dentistry, is to aim for early legislation of dental health examinations for pregnant women to reflect the principles of the Basic Law for Child and Maternal Health and Child Development enacted in March 2019.

There are two types of dental health examinations for expectant and nursing mothers: group examinations and individual examinations at clinics, but in consideration of the physical burden, it is thought that expectant and nursing mothers themselves would be more likely to use the individual examination by their family dentist in the community where they are regularly examined.

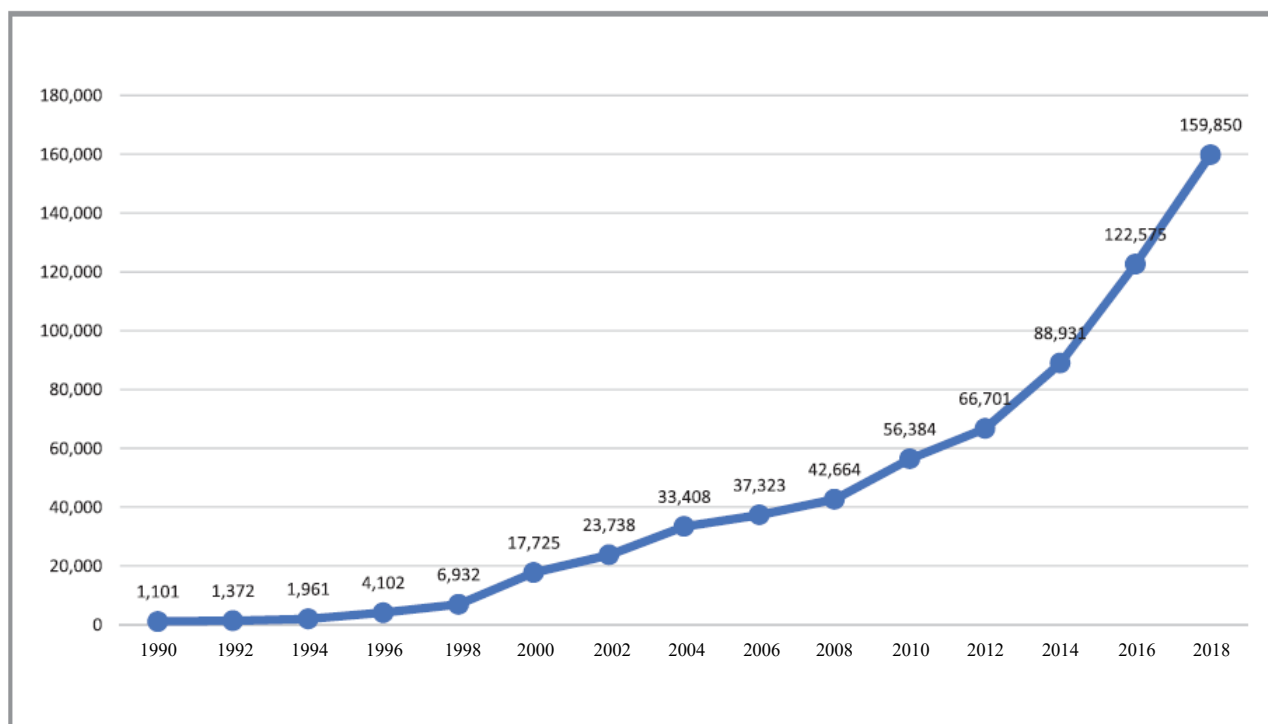


Chart 41 Changes in the number of child abuse consultation & response

Number of cases of child abuse consultation & response handled by child consultation centers in FY 2018 (preliminary figures), Ministry of Health Labour and Welfare.

Regarding dental checkups for pregnant women, as of 2017, only approx. 7.5% of pregnant women who reported their pregnancy received a group checkup at a health center, etc., and only approx. 23.6% received an individual checkup at a dental clinic after getting a coupon (source: Report on Community Health and Health Promotion Projects, Ministry of Health, Labour and Welfare). Periodontal disease in pregnant women is known to be associated with an increased risk of low-birth-weight babies and premature delivery. Pregnant women with periodontal disease are known to be at increased risk of low birth weight and preterm delivery, and dental checkups should lead to early detection and treatment of periodontal disease. In addition, maternity dental checkups for women who have given birth should also be expanded.

Since mothers tend to worry about postpartum depression, how to raise their children well, and weaning, the implementation of dental checkups will also contribute to such follow-up.

With regard to maternity dental checkup, it is desirable to have a system in which dental checkups are also conducted for their partners. If the partner's dental checkup can be conducted at the same time as that of maternity, this will give more opportunities for fathers in the working generation to undergo dental checkups as there are no statutory dental checkups, and also act as a good opportunity to acquire the knowledge to protect their children's teeth and oral health. Other checkups can be conducted simultaneously with maternity checkups, for example, to check whether fathers are participating in childcare, whether children are being abused, and the possibility of domestic violence by multi-professionals. Consequently, any problematic parent-child cases can be connected to the comprehensive child-rearing support centers at an early stage.

In recent years, the nuclear family has been increasingly prevalent, and the problem of maternal isolation also exists when there is inadequate support for child rearing around the maternity woman. Young mothers are the generation that grew up with the Internet since childhood, and consequently tend to look up information about

child-rearing online, often searching and learning via their smartphones and other devices. Therefore, correct dental and oral health knowledge is not necessarily conveyed to these young mothers, and we believe it is important to promote and educate these young mothers about dental and oral health. In particular, to educate young mothers on the proper ways to feed their children according to their oral developmental stage and on issues such as feeding and swallowing even before the start of baby food feeding, cooperation with local dietitian associations etc. will be important.

When we look at the new born babies, the current dental checkup service for infants begins with a dental checkup for children aged 1 year and 6 months, at which stage the child has already been weaned. We consider that an infant dental checkup around the age of 1 year, when the eruption of the mandibular central incisors is completed, is also necessary to check children's oral health.

For the field of dentistry to address child abuse, development of a diagnostic assessment sheet for early detection of child abuse is necessary. The assessment sheet should be easy to use during dental checkups at nursery schools, kindergartens, and schools, as well as in infant dental checkup programs. From the viewpoint of efforts to enable early detection of child abuse, we are considering having dentists visit children's cafeterias to check oral health in children.

In addition, local dental associations should participate as members in the consultive meetings of local comprehensive child-rearing support centers. Several prefectural and regional dental associations in Japan are promoting the placement of dentists in children's homes, and it is important to horizontally expand such precedents in the future.

◆ **Actions for implementation** ◆

- Strengthening measures toward legislation of maternity dental checkup [Aiming for legislation by 2025]
- Development of a child abuse diagnostic assessment sheet [by 2025]
- Placement of dentists and dental hygienists at comprehensive child-rearing support centers [Nationwide expansion by 2030]
- Lobbying for expansion to 1-year-old dental checkup and partner dental checkup programs [Aiming for nationwide implementation by 2024]

6) Enhancing the functionality of regional dental associations

Assessment of current status and challenges

Regional dental associations play an important role in promoting dental care that supports the community. Dental associations in Japan are organized into a three-layered structure consisting of regional dental associations, prefectural dental associations, and the Japan Dental Association which correspond to the administrative divisions of city, prefecture, and country, respectively.

Since municipalities are the main entities in charge of implementing long-term care insurance services, representatives of regional dental associations provide comments on dentistry in the formulation of municipal long-term care insurance service plans. On the other hand, the involvement of prefectural dental associations rather than regional dental associations is more significant, since medical care has been promoted on a wide scale, mainly in secondary medical districts, rather than in municipalities. In fact, representatives of prefectural dental associations are named as members in the formulation of medical plans and regional medical care concepts. However, in the past few years, with the promotion of comprehensive medical and long-term care services and the development of an integrated community care system in which people can live actively in their

own neighborhoods, there is an urgent need to provide community-based dental health care and welfare services, and expectations to local dental associations are higher than ever. For this reason, the functionality of regional dental associations must be strengthened.

Direction to be aimed

For the first time, the FY2020 national budget of the Ministry of Health, Labour and Welfare included budget items to support initiatives in municipalities to enhance and strengthen dental and oral health in addition to prior funding at the prefectural level and in cities with public health centers. This budget indicates expectations are being placed on the advancement of fine-tuned dental health at the municipality level. In addition, the use of the Comprehensive Fund for Ensuring Regional Medical and Long-term Care, which is funded by the consumption tax as the source of revenue, is also expected to be utilized for the enhancement of regional dental health care services.

In order to ensure that these national budgets and funds are used to implement regional dental health services, it will be essential to strengthen the voice of the local dental associations. To this end, it is important for local dental associations to strengthen their relationships with local medical associations, pharmacist associations, and nursing associations, and to build a track record of multi-professionals cooperation. It is also necessary to accumulate examples of cooperation between regional dental associations and municipal governments, and devise ways to develop them horizontally.

◆ Actions for implementation ◆

- Lobbying for expansion of municipal projects related to dentistry through the budget of the Ministry of Health, Labour and Welfare and the Comprehensive Fund for Ensuring Regional Medical and Long-term Care, etc.
- Practice and publication of multi-professional cooperation (Examples of cooperation with medical associations, pharmacist associations, and nursing associations)
- Accumulation of cases of cooperation between regional dental associations and municipal administration, and horizontal development of cooperation

3

Ensure the high-quality and efficient dental care delivery system

1) Promotion of ICT utilization in dentistry

Assessment of current status and challenges

The use of ICT in society is progressing at a remarkable pace. The launch of 5G (5th Generation Mobile Communication System) service in 2020 has significantly improved communications environment, enabling high-speed, high-capacity transmission, ultra-high reliability and low latency, real-time remote control, and multiple simultaneous connections.

Under these circumstances, the use of ICT is required in the field of dental care to ensure quality and improve the efficiency and convenience of dental care. Specifically, the practice of HPKI (Health Public Key Infrastructure) for personal identification in connection with the linkage of medical information in regional medical information networks, the use of dental licenses and membership cards, and the introduction of ICT related to billing administration such as online billing for medical fees, online eligibility verification for dental care, electronic medical records, etc., as well as PHR (Personal Health Record) for lifelong health management of patients and the Mynportal (Individual Number Card) promoted by the government. However, there are many issues to be addressed, such as how to utilize those systems, including dental information.

In addition, the innovations in dental technology, such as optical impression technology, CAD/CAM (computer-aided design and manufacturing), AI diagnosis, and robotic medicine, are progressing, but there are still only a few technologies actually applied.

In order to compensate for inadequate access due to the declining population in an ageing society with a declining birthrate and requests to refrain from leaving the house due to the new coronavirus infection, the use of ICT such as videocall and tele-dentistry is urgently required.

Direction to be aimed

The formats of regional medical information networks that have already been started in model projects in various regions will be standardized and operated on a nationwide basis. As the Japan Dental Association, we will respond to HPKI, and each dental institution will participate in the medical network to enhance integrated community care.

Under strict control of personal information, medical information, medication information, and health checkup data in medical and long-term care settings will be integrated to provide efficient and high quality medical care. The use of data and advances in AI technology will provide individualized dental care, guidance, and management.

People are becoming increasingly aware of their oral health, and it is expected that smart phone applications will be developed that utilize AI image analysis using cameras, etc., to know their own oral health condition. Sharing such information with family dentists has the advantage of improving the quality of oral health care and determining the need for dental treatment, thereby enhancing the public's sense of security. In addition, it is essential to promote oral health care through, using telephones, video calls, and other means during times of self-restraint from leaving the house, such as in the case of new coronavirus infections. It is forecasted that the number of areas without dentists will increase in the future, and while it goes without saying that access to dental institutions and dental service at home are essential, it is also necessary to deepen discussions on the establishment of support systems in those areas, such as online dental treatment (tele-dentistry) utilizing ICT and other technologies.

For new dental technologies and materials, the trend toward metal-free dentistry has been rapidly progressing since the introduction of CAD/CAM crowns to medical insurance, and the development of new resin-based materials and the inclusion of zirconia in insurance coverage are also expected. The development of optical impressions and other technologies will have a significant impact on the provision of dental care in the future, and it is expected that the integration of intraoral digital data with various fields will promote new services and technologies.

◆ Actions for implementation ◆

- Widespread use of online billing for medical fees [Targeting introduction at two-thirds of all dental clinics by 2030]
- Widespread use of online eligibility verification for medical insurance [at most institutions by 2030] and response to My (Individual) Number Card
- Participating in regional medical information networks
- Individual patient care (health education, prevention, health care) using PHRs
- Investigation of online and other remote treatment in dentistry
- Promoting the development of new technologies by the utilization of ICT

2) Improvement of training environment of dental professionals (Dental Hygienists & Dental Technicians)

Assessment of current status and challenges

With Japan's demographic trend of declining birthrates, the working-age population, which has already begun to decline, is expected to further accelerate its decline after 2025, making it an urgent issue to secure human resources to maintain the quality and quantity of medical and health services.

Dental hygienists and technicians, in addition to dentists, play a significant role in providing dental care. Nevertheless, schools continue to struggle with reaching recruitment quota for students in these two professions, and there is a shortage in dental care field as well. As the decline in the working-age population accelerates, immediate measures must be taken to secure and train dental hygienists and technicians.

As the needs for dental care diversify, dental hygienists are not only required to assist in the treatment at dental clinics, but also to work at hospitals, long-term care insurance facilities, and government agencies, and their workplaces and duties are expected to further diversify. Furthermore, dental hygienists are essential to the promotion of oral health care, which is important for extending the healthy life expectancy and improving the people's quality of life.

In fact, the ratio of job offers to job applicants for dental hygienists continues to be on upward trend. It surpassed 20-fold in FY2018 (Chart 42). This represents almost a doubling from the figure of 10.6-fold in FY2009. On the other hand, with the growing need for dental hygienists, the number of students enrolled in dental hygienist training schools has continued to increase since 1993, nearly doubling during the past 25 years, but the number of students enrolled has only increased about 1.5 times in 25 years, leaving the number of students below capacity (Chart 43). Approx. 7,000 applicants pass the national dental hygienist examination each year. Since the majority of the workers are women, there are many cases of women leaving the workplace due to life events such as maternity and child-rearing, and it is necessary to strengthen measures to support their returning to work.

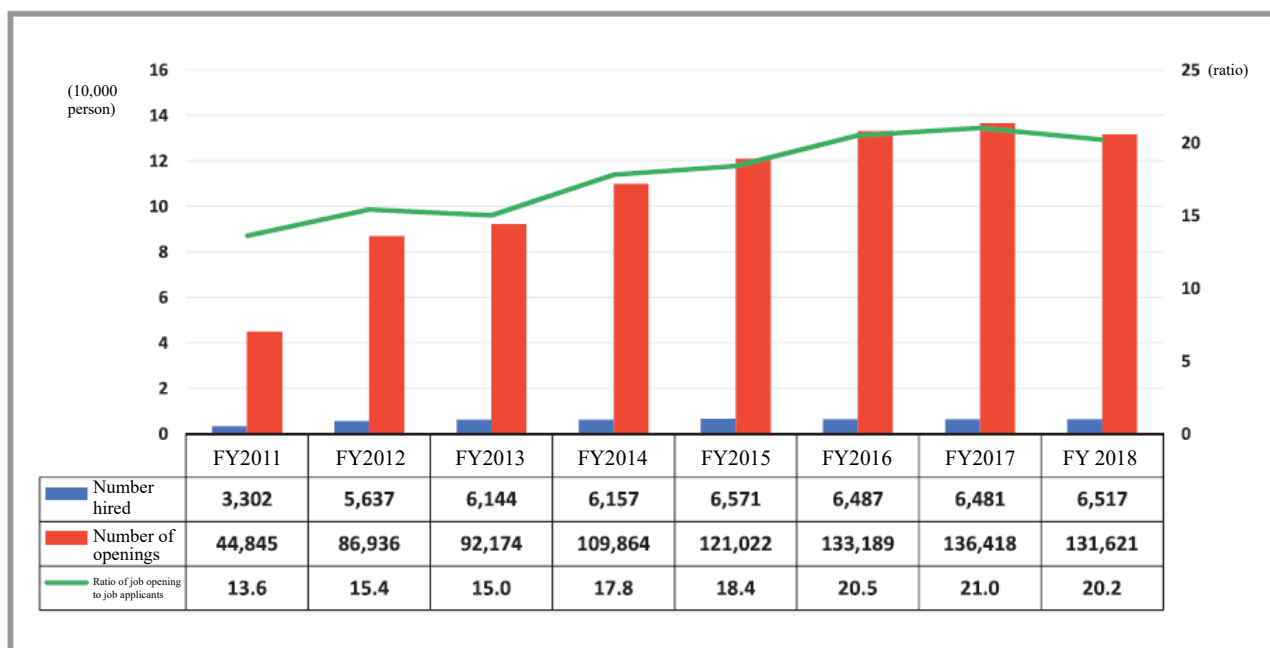


Chart 42 Number of new graduate dental hygienists employed, number of job openings, and ratio of job opening to job applicants

Cited from 2019 Annual trend survey of dental hygienist training school admission capacity, number of applicants, etc. (by Japan Association for Dental Hygienist Education)

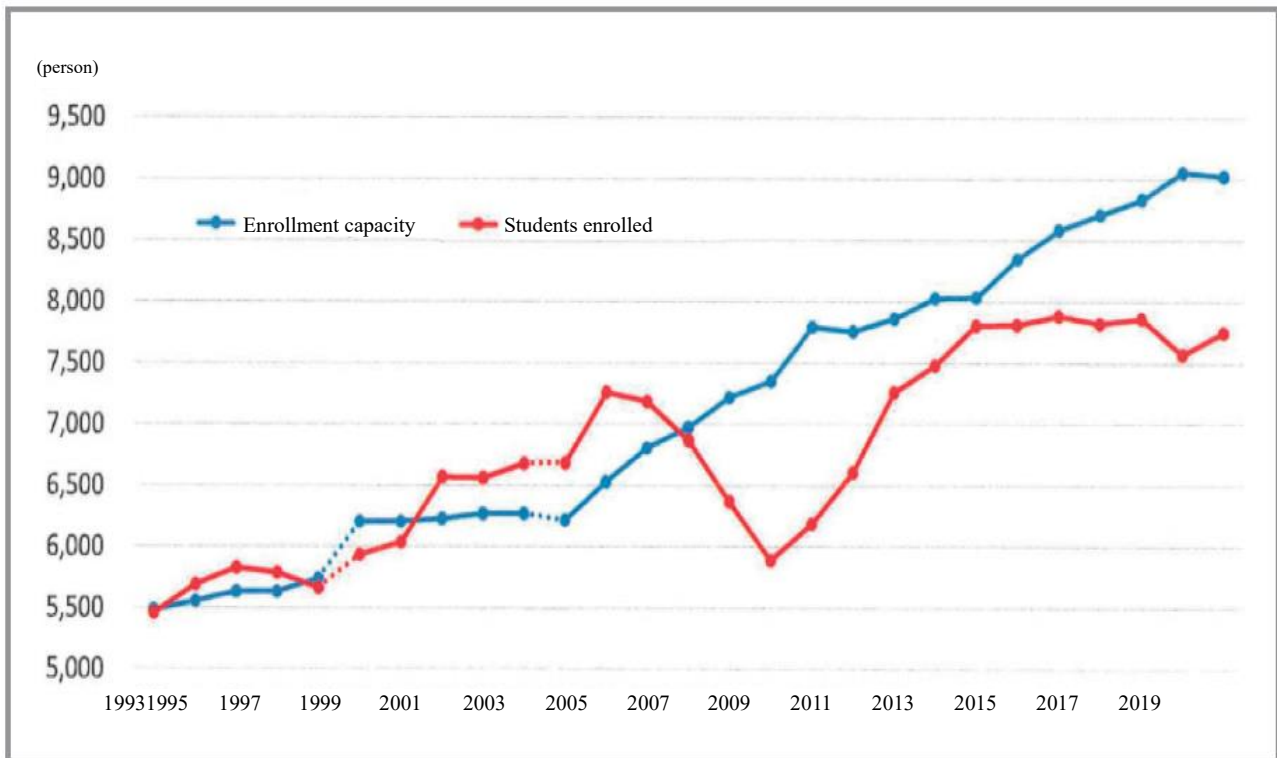


Chart 43 Changes of enrollment capacities and actual enrollments at dental hygienist training schools

Cited from 2019 Annual trend survey of dental hygienist training school admission capacity, number of applicants, etc. (by Japan Association for Dental Hygienist Education)

These trends show a chronic lack of hired dental hygienists relative to demand. As the working-age population continues to shrink even quicker, work to raise social awareness of the dental hygienist profession and the legislation to secure dental hygienists are needed to raise the number of hired dental hygienists.

Next, with regard to dental technicians, the field of dental laboratory may diversify due to the increasing number of elderly patients who need to maintain and improve their oral functions by utilizing dentures and other dental prosthetics. However, in contrast to dental hygienists, dental technicians are not legally allowed to provide the assistance to dentists and their work is limited. In the future, from the standpoint of dental technicians, it will be necessary to establish a system for close collaboration and information sharing with dentists in order to respond to patients' needs closely.

Enrollments at dental technician training schools plunged from 3,155 students in 1991 to 927 students in 2017, and the number of schools decreased by 20 from 72 to 52 over this period (Chart 44). With most schools far below their enrollment capacities, it is suspected that some schools may be forced to stop enrolling applicants in the future, and the number of prospective students will continue to decline.

Another issue for dental technicians is the high rate of early turnover of qualified dental technicians (Chart 45), resulting in a skewed age structure in which nearly 50% of all employed dental technicians are 50 years old or older. If senior technicians continue to retire in the future, this could lead to a significant decrease in the number of dental technicians, and there is an urgent need to secure young dental technicians.

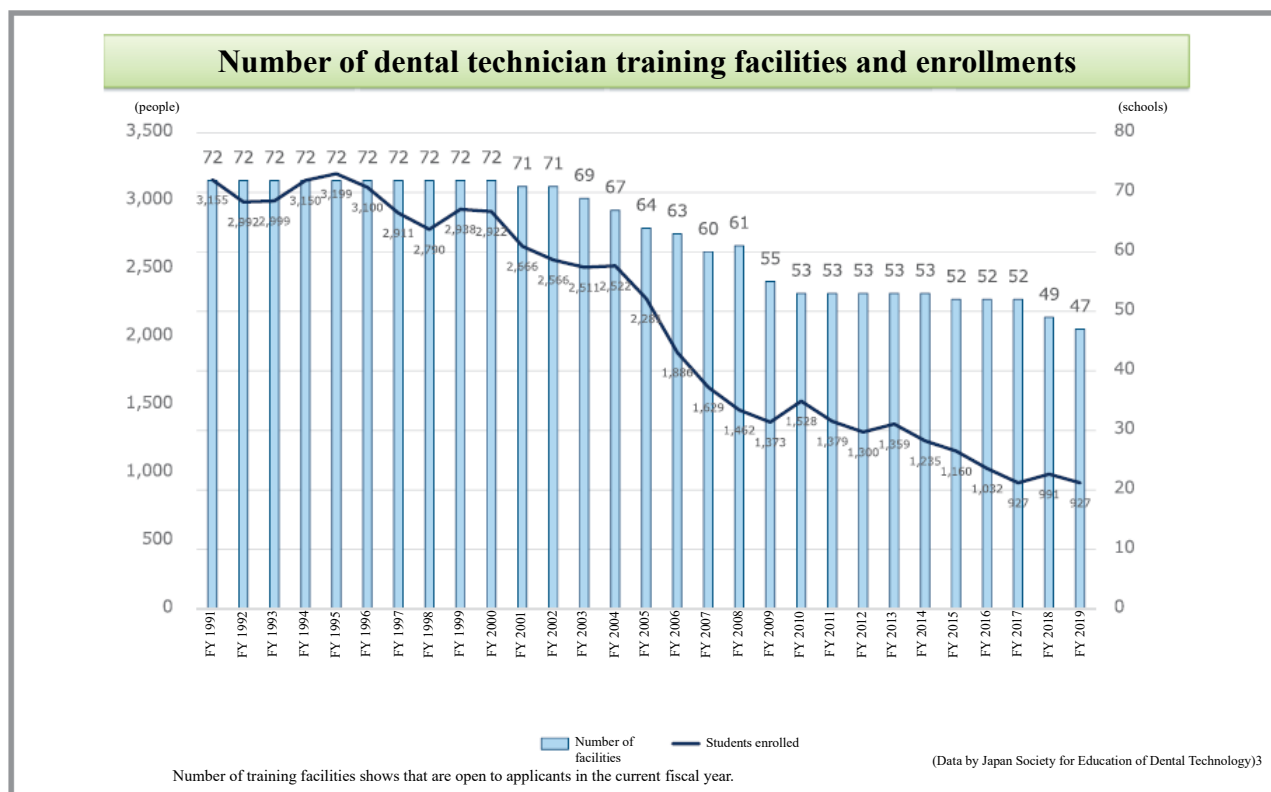


Chart 44 Changes of number of dental technician training facilities and enrollments
By the 7th Commission for Training and Acquiring Dental Technicians

Chart 45 The Age at which dental technician left the profession

	School A		School B		School C		School D	
	n	Proportion (%)	n	Proportion (%)	n	Proportion (%)	n	Proportion (%)
Total	92	100.0	68	100.0	138	100.0	5	100.0
20 to 24 years old	47	51.1	16	23.5	76	55.1	4	80.0
25 to 29 years old	26	28.2	23	33.8	32	23.2	1	20.0
30 to 34 years old	8	8.7	10	14.7	16	11.6	0	0.0
≥ 35 years	10	10.9	10	14.7	6	4.3	0	0.0
No response	1	1.1	9	13.3	8	5.8	0	0.0

Percentage of responses for each facility is ordered by color (highest: red, lowest: white). Higher percentage has deeper shading.

Cited from Research on Policy Formulation to Ensure a Stable Supply of Dental Hygienists and Dental Technicians based on Working Status, Health and Labour Sciences Research

Direction to be aimed

In order to ensure the quality and quantity of dental health care services equal to or better than the current level, even with a declining population in the future, efforts will be made to secure and train human resources capable of handling medical cooperation, multi-professional cooperation, domiciliary dental health care, etc. Furthermore, Japan Dental Association and the dental community will promote the profession of dentistry, especially to elementary and junior high school students, and its attractiveness to the public, as well as promote the improvement of the working environment in dental care institutions.

With respect to the training of dental hygienists, the curriculum should be enhanced to contribute to the implementation of multi-professional cooperation and oral health care related to medical care, long-term care and welfare, and necessary measures should be taken after considering the transfer of credits based on cooperation with training schools for various medical professions, flexible operation of transfer system, and enhancement of scholarship system, etc. Furthermore, we will lobby the government to establish legislation to secure dental hygienists, based on which we will establish a public registration system and a nationwide matching system, as well as enhance training and other programs for re-entry into the workplace. Also, we will support the training of dental assistants in each prefecture to supplement the work of dental hygienists, as well as to improve the quality and positioning of these assistants.

In the training of dental technicians, it is beneficial that the results of new technological developments in dentistry are smoothly introduced into the field of education, and a drastic reform of the educational system is required to achieve. However, since each training facility is in a critical situation due to declining enrollment, we will continue to lobby the government for the enhancement of public subsidies and scholarship/student loan programs to ensure the sustainability of the schools and the improvement of their facilities. At the same time, it obviously goes without saying that as a countermeasure to the shortage of dental technicians in the future, business efficiency should be improved by the utilization of ICT, etc. It is necessary to consider improving the working environment for foreign nationals licensed as dental technicians in Japan.

◆ Actions for implementation ◆

Dental Hygienists

- Flexible operation for transfer students at training facilities by expansion of credit recognition, etc.
- Expanding the public relations of dental hygienist facilities and enhancing scholarships and loans
- Establishment of a matching system for dental hygienists seeking employment, etc.

Dental Technicians

- Proposal for a fundamental reform of the educational curriculum for quick response to changes in the dental technology industry
- Subsidies for the continuation of training facilities and scholarship / student loan programs
- Promoting ICT in the field of dental laboratory

3) Resilience and strengthening of the unity in the entire dental society

Assessment of current status and challenges

All aspects of the dental society must be engaged in building the infrastructure for providing efficient, high-quality dental care. This is because vigorous activity sparks new technological innovations.

However, if we look at “trends in dental care expenditure” as one of the indicators to evaluate the revitalization of the dental industries as a whole, for example, “estimated dental care expenditure” have been remarkably stagnant for 10 years, starting approximately 20 years ago now. Since 2.6 trillion yen in FY2001, when the records were organized, the amount has repeatedly declined from the previous year to 2.55 trillion yen in 2009, a critical situation that could have led to the collapse of dental care (Chart 46).

In the dental industry, for example, dental technologies that are classified as “Category C (C1, C2) new functions / new technologies,” which require approval by the Central Social Insurance Medical Council (*Chuikyo*) before they can be covered by insurance, were approved in 126 cases in the eight years from 2005 to 2012, compared to only 1 case in the dental category, indicating a significant difference in technological capabilities (Chart 47).

Chart 46

Fiscal year	Estimated dental care expenditures		
	Expenditures (trillions yen)	Growth (100 millions yen)	Growth (%)
2001	2.6043	481	1.88
2002	2.5945	-98	-0.38
2003	2.5425	-520	-2.00
2004	2.5496	71	0.28
2005	2.5775	279	1.10
2006	2.5057	-718	-2.79
2007	2.5004	-53	-0.21
2008	2.5660	656	2.63
2009	2.5473	-187	-0.73

Chart 47

Fiscal year	C category (new function, new technology) Number of healthcare technologies approved by the CSIMC	
	Medicine	Dentistry
2005	7	0
2006	5	0
2007	8	0
2008	8	0
2009	16	0
2010	35	0
2011	22	1
2012	25	0
Total	126	1

This is partly because it has been difficult to respond to the diversification of dental care needs due to changes in the structure of diseases caused by the ageing of the population and changes in the living environment of local residents, but there is no denying that there has also been insufficient information collection and analysis on these issues and a stagnant dental industry that is closely linked to advances in dental technology. As a result, the lack of understanding and efforts to provide quality dental care for patients must be taken seriously.

Direction to be aimed

In addition to coping with the declining population and extremely low birthrate toward 2040, what the dental community should pursue is to promote more of sharing of the awareness of issues, values, and directions that the entire dental society is currently pursuing as part of the “All Dental Initiative.” To this end, for example, we would like to deepen discussions on new dental technologies necessary for society in 2040 by further enhancing the “Dental Revitalization Project Meeting” currently established in the Japan Dental Association. In particular, to promote “disease prevention” and “prevention of serious diseases,” we will boldly envision the new dental technologies required, including “clinical test of dentistry,” which has lagged behind in dentistry, and promote development through industry-government-academia. Furthermore, we would like to establish in the dental society the awareness that these technologies should be covered by medical insurance under appropriate evaluation.

In this direction, collaboration with the “Dental Innovation Road Map” (see page 63) being worked on by the Japanese Association for Dental Science and the “New Dental Equipment and Dental Technology Industry Vision” being worked on by the Japan Dental Trade Association is also an important perspective. In particular, metal-free materials are currently increasing in dental insurance treatment, however, not every treatment can be applied with metal-free materials. The beauty of the mouth is sought by all people, and at the same time, gold-silver-palladium alloys, the current centerpiece of insurance metal materials, present a major challenge due to their highly volatile prices. We believe that it is necessary to advocate a policy on the development of alternative

materials and technologies to metals from the viewpoint of revitalizing the industry.

In addition, specific research and development challenges are being organized in the Japanese Association for Dental Science and dental industrial fields toward 2040, including: dental materials with preventive functions against dental caries, periodontal disease, and infectious diseases; regenerative dental materials for teeth and periodontal tissues; materials and cutting equipment for the spread of CAD/CAM systems; 3D printers as additive modeling systems; intraoral scanners; OCT (Optical Coherence Tomography) diagnostic imaging devices; screening devices for systemic diseases using saliva and oral specimens; and screening schemes for oral mucosa examinations including cancer. Japan Dental Association is willing to cooperate in these research and development.

We also believe that it is important to the international community and international contributions that have been handled individually by the industry, and to promote contributions to Asian countries, especially those with ageing populations, under a consistent policy. We will also develop human resources with a global perspective to achieve this goal.

Sharing information and policy goals will be indispensable for strengthening ties in the dental society. As a consequence, the results of the research and policy goals were shared with the dental society regarding “the fact that oral health is closely related to systemic health” and “the potential for significant contributions from dentistry and the oral cavity to promote systemic health,” the people’s understanding of current dental care has deepened. On the other hand, “shortage of manpower,” “lack of information collection pipes,” and “lack of awareness of the issues” are also challenges to further update them and reflect them in dental care policy. It is necessary to develop an organizational structure to collect, analyze, and disseminate new information, and to ensure a permanent think-tank function for policies to realize the desired vision of dental care.

Specifically, we will strengthen the organization of the Japan Dental Association Research Institute to adapt to today’s information overload, establish a new organization to collect and analyze information on a permanent basis, and secure, train, and promote human resources, both within and outside the dental community. It will be important to develop a database of the research findings, papers, survey results, and other data possessed by the Japan Dental Association and build a system that enables efficient use of such data. In addition, since there is still insufficient data to analyze the relationship between oral and systemic diseases, which is the main stream to the 2040s, we will also promote cooperation with Japanese Association for Dental Science and its subsidiary academic societies, dental universities/colleges and their affiliated hospitals. To this end, the creation of a “Dental Health Conference” will be considered, which aims to share information on best practices across the country with the Japan Dental Association and local dental associations.

◆ Actions for implementation ◆

- Developing a new unit in charge of information collection, analysis, and think-tank operations [by 2025].
- Cooperating with dental industry in the active development of metal-free and palladium-free dental materials [by 2030].
- Promoting the utilization of academic papers and data in a database format [by 2030].
- Establishing the “Dental Health Conference” [by 2030].
- Cooperating and collaborating to realize the dental innovation envisioned by the Japanese Association for Dental Science [by 2040].

The “Dental Innovation Roadmap” of the Japanese Association for Dental Science

To commemorate its 70th anniversary in 2019, the Japanese Association for Dental Science began drafting its “Dental Innovation Roadmap (timeline)” to show the dental community how to adapt to the future needs, as we head toward 2040. It drew the Roadmap by predicting what 2040 would look like and then looking back from that point to develop approaches needed to meet the challenges. The roadmap breaks the period from 2019 to 2040 into three stages (Stage1: 2019 - 2025, Stage 2: 2026 - 2032, Stage 3: 2033 - 2039) . It also establishes the development goals for each of these stages.

The three stages have a total of 37 development topics. To encourage participation from a wide range of fields, these themes are to be announced to the entire society through various tools as open innovation, with the aim of materializing them. First, it will be presented to the entire society as the subject of the dental society’s activities at the 24th Annual Meeting of the Japanese Association for Dental Science, which will be co-hosted by the Japan Dental Association in 2021. And next, we also aim to present the update of the progress on the occasion of 2025 Expo in Osaka/Kansai, theme is “Designing Future Society for Our Lives.” The Expo will be an opportunity for us to work with the Japan Dental Association for further dramatic development of dental medicine and dental care.

4) Promotion of introduction and development of new technologies and proposing new disease names.....

Assessment of current status and challenges

It is no overstatement to express that the dental society has completed most of its treatment with the names of caries, periodontal disease, and missing tooth. However, along with the ageing of the population and the development of new technologies, there was an urgent need to address changes in disease structure that had not previously been presumed and oral problems that could not be addressed under existing disease names.

Therefore, the Japan Dental Association, together with the Japanese Association for Dental Science, has continued to study the search for new dental disease names in order to find appropriate names for symptoms and their responses to changes in the disease structure, due to advances in dental technology and the ageing of the population. As of 2015, the study continued with the four top priorities of “lifestyle-related periodontal diseases,” “oral hypofunction,” “development failure of oral function,” and “oral biofilm infectious disease,” and in the FY2018 revision of medical fees, management fees for oral hypofunction and oral dysfunction were newly added, and the addition of pediatric oral function management and oral function management were evaluated as medical fee points for the first time as an addition to dental disease management fees. In addition, new tests related to oral hypofunction were established, making this an epoch-making revision for the dental society.

However, from the perspective of maintaining the health and the people’s quality of life, there is a lack of understanding of the needs of patients and it is expected that awareness surveys will be utilized.

Direction to be aimed

In introducing new technologies, industry-academia-government cooperation is essential, which is centered on the dental industry. In particular, we will develop dental materials and CAD/CAM systems that provide

preventive functions against dental caries and periodontal disease, screening functions using saliva and oral samples, and the introduction of regenerative medicine and biotechnology in the dental field.

When we consider the new disease names, it is essential to establish a diagnosis based on objective and appropriate testing and corresponding treatment. In order to establish a new testing method in medical insurance, it is necessary to accumulate evidence, submit an application by medical device manufacturers as stipulated in the Act on Securing Quality, Efficacy and Safety of Products Including Pharmaceuticals and Medical Devices and examination by CSMIC and the coordination and cooperation among those involved is necessary.

As illustrated by the Ministry of Health, Labour and Welfare’s projection for the future of dental treatment (Chart 48), demand for dental treatment is presumed to shift from a treatment-centered approach, such as restoring tooth morphology, to a management and coordination approach aimed at maintaining and restoring oral functions. While continuing to enhance existing dental care, we will promote technological innovation to meet the diversified dental needs of the future and steer a course toward a new type of managed and cooperative dental care, with dental-related professions working in cooperation with multi-professionals. We will also seek to introduce the oral health care of edentulous jaw patients and perioperative patients through the addition of new insurance-related disease names such as “oral biofilm infection.”

In addition, since it is necessary to obtain government approval for new technologies developed in foreign countries in order to put them to practical use in Japan, we will strengthen cooperation among the Japanese Dental Association, the Japanese Association for Dental Science, and dental industry to ensure smooth introduction of such technologies.

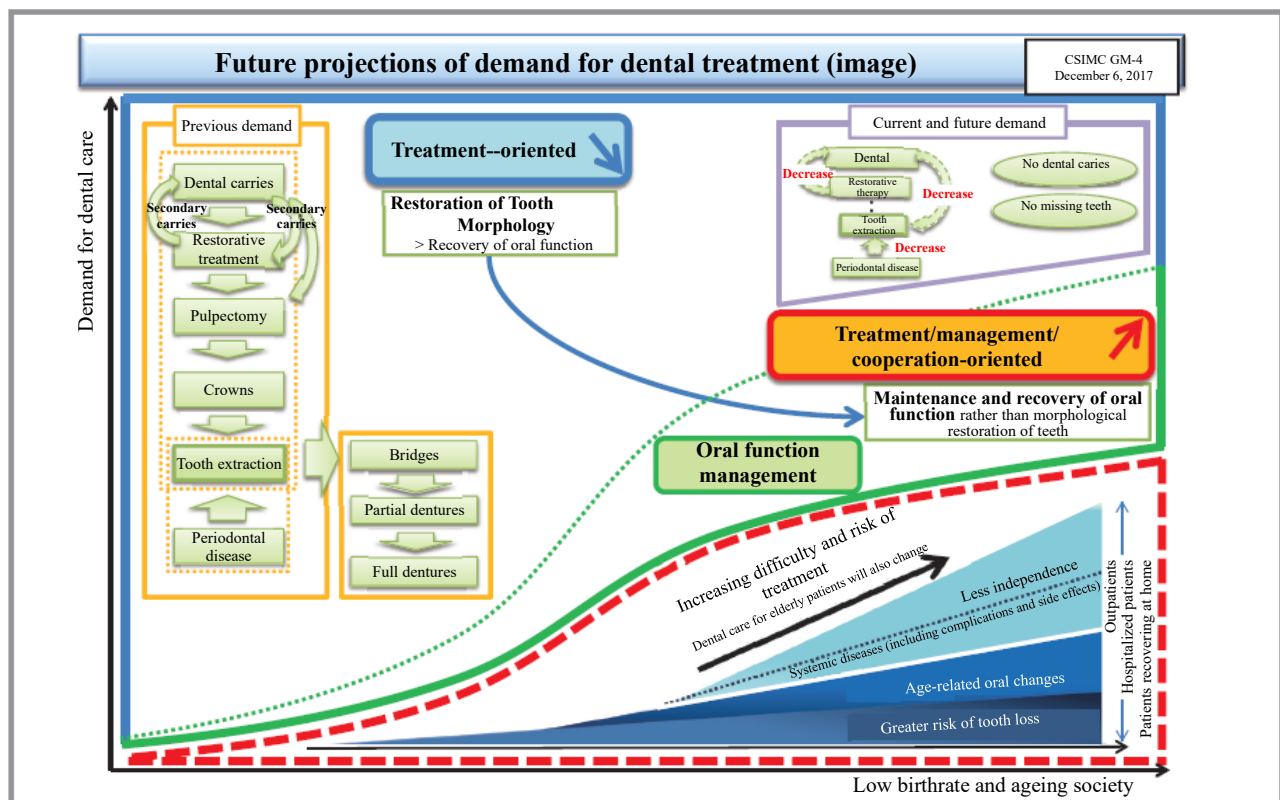


Chart 48 Future projection of demand for dental treatment

Cited from data of Ministry of Health, Labour and Welfare “The 376th Session of the Central Social Insurance Medical Council”

◆ Actions for implementation ◆

- Managing and expanding the utilization of testing and diagnostics related to medical insured oral hypofunction and developmental failure of oral function
- Strengthening efforts to achieve medical insurance coverage for testing related to oral biofilm infections
- Using AI, image processing, and other technologies for oral diagnostics and guidance
- Promoting the introduction of biotechnology in dentistry including regenerative medicine
- Actively participation in international scientific conferences and meetings

5) Promotion of dentist's work style reform and presentation of various career paths

Assessment of current status and challenges

The provisions of the Act on the Arrangement of Related Acts to Promote Work Style Reform are being gradually implemented starting in FY2019. The overtime work limit regulation that began in the general industrial sector will be applied to physicians in April 2024, and the Ministry of Health, Labor and Welfare (MHLW) is currently conducting a close examination of laws and regulations and discussing task shifting and task sharing, which are primarily designed to reduce the burden on physicians. Same as physicians, dentists working at university hospitals including oral surgery and others were found to be subject to overwork (Chart 49), and discussions are underway.

However, in Japan, more than 80% of dentists work in dental clinics, while the rest of dentists work in higher level of medical institutions such as hospital dentistry, dental educational institutions, and government agencies. It is recognized that general dental clinics have longer opening hours than medical clinics and dentists work longer hours to ensure community health care (Chart 50). The proportion of women dentists is increasing every year and reached 24.1% in 2018 (Chart 51).

Considering those circumstances, to promote work style reform in dentistry, it is necessary to respond to changes in work styles that may occur due to life events, for example, the realization of flexible work styles, regardless of the place of work, or regardless of gender.

In order to promote national dental care, the security of dentists' health and a stable work environment should be the fundamental factors, and the creation of new career paths, including training programs for dentists, as well as the enhancement of hospital dentists and administrative dentists in shortage currently, are issues to be considered. Furthermore, task shifting and task sharing in dental practice also requires sufficient review.

- The peak work among hospital dentists is 40-50 hours per week (50-60 hours per week for physicians), and the percentage exceeding 60 hours per week (converted to 80 overtime hours per month, 960 hours per year) is 20%.

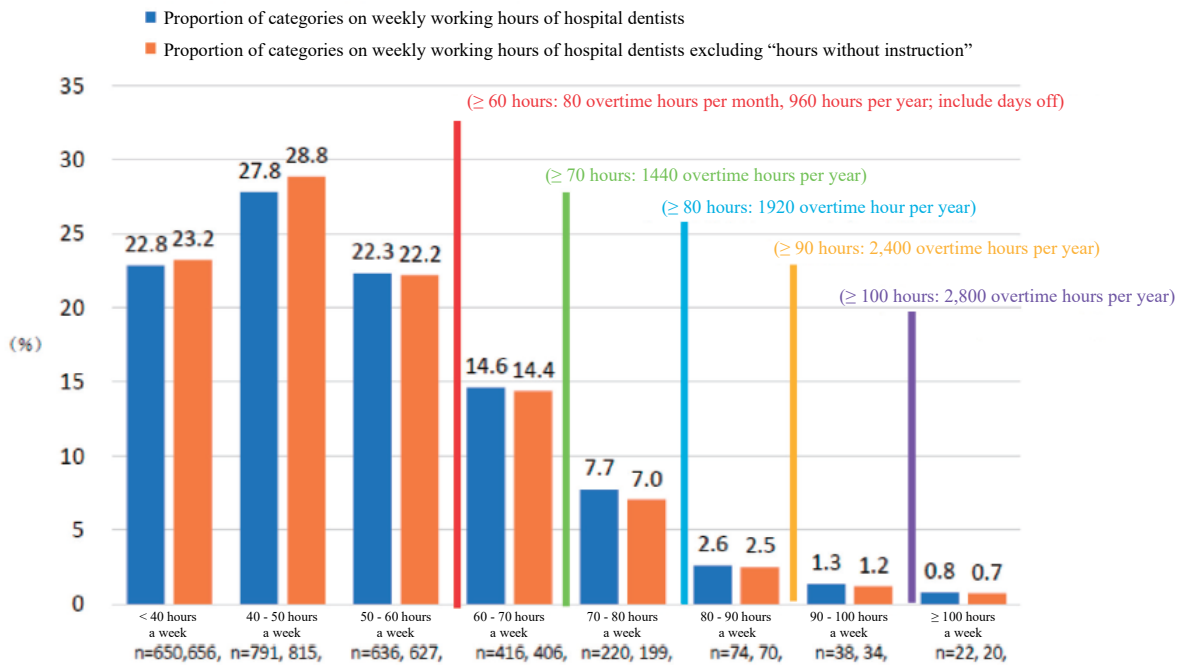


Chart 49 Working hours at hospital dentistry

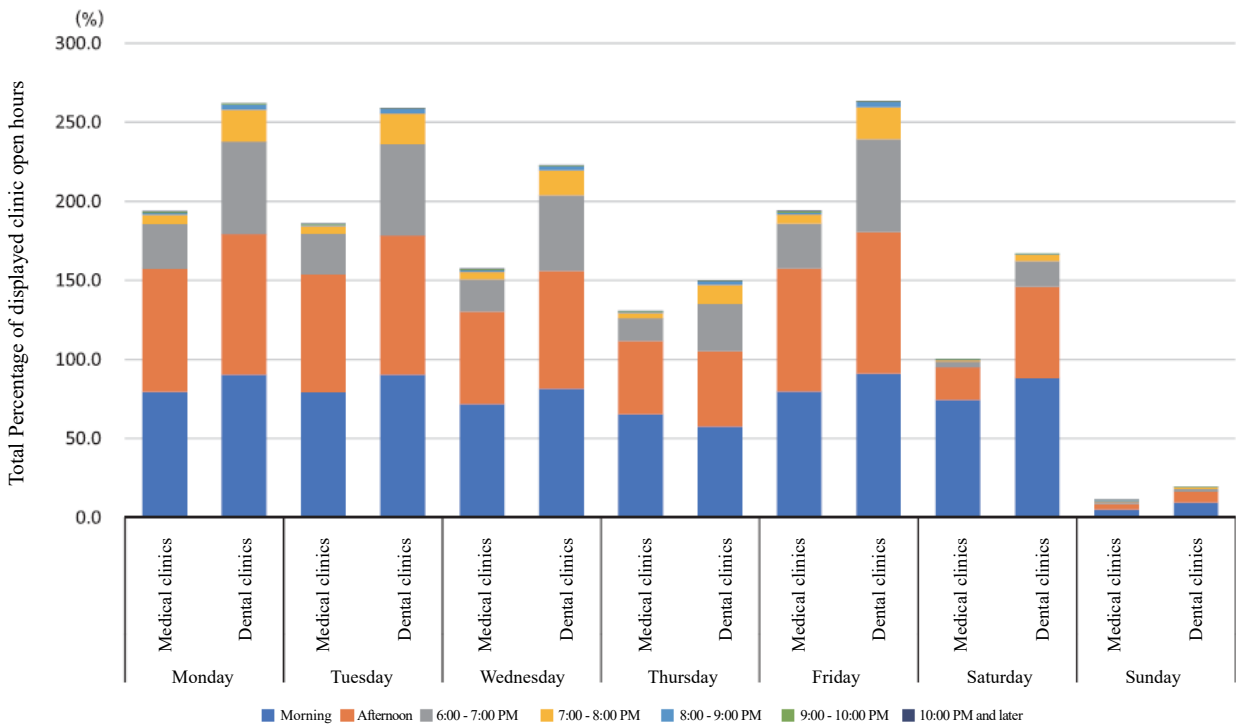


Chart 50 Proportion of displayed clinic open hour

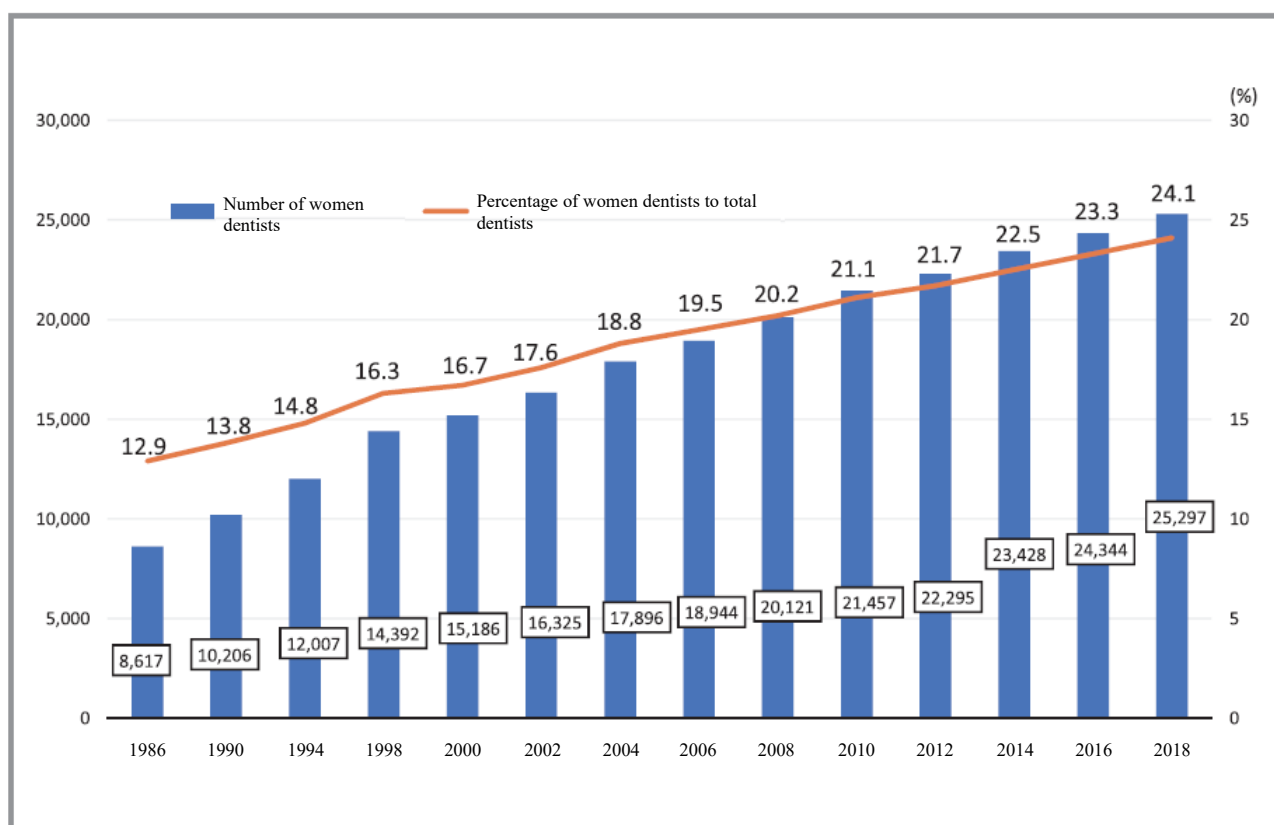


Chart 51 Proportion of women dentists

Direction to be aimed

Measures should be taken to promote reforms in the way dentists work, particularly with regard to the following three points.

Measures should be taken to promote reforms of dentists work, particularly in the following three areas. First, it calls for legislation to correct overtime work for hospital dentists, same as physicians who work excessive hours. Second, to improve the working environment for women dentists, we will make every effort to target all measures related to the reform of women's work styles, including support for the prevention of job turnover and reemployment. Third, to improve the working conditions of dentists employed by dental institutions, for example, by making it easier for them to take paid leave, we will strengthen measures to support them.

On the topic of task shifting in dental care, based on careful discussion, there are plans to consider task shifting in dental care, such as the expansion of treatment assistance services by dental hygienists, and other transfers of tasks other than diagnosis and treatment.

Finally, we will promote comprehensive reforms of dentists work, including the restructuring of work assignments and forms of work for all genders, discussions related to employment support, and the use of ICT to improve work efficiency.

◆ **Actions for implementation** ◆

- Providing diverse career paths for dentists
- Discussion of task shifting and task sharing in dental care
- Support comprehensive work style reform through employment support and improvement of working efficiency by using ICT

6) Strengthening and enhancing education and training system, aiming to maintain and improve the qualities and skills of dentists.....

Assessment of current status and challenges

Maintaining and improving the qualities and skills of dentists are prerequisites for ensuring the provision of high quality of dental care to the public. In order to achieve this, it is necessary for dental college/school of dentistry, the Japan Dental Association, dental academic societies, and the administrative agencies to consider the training of dentists from their respective standpoints, and to strengthen and enhance the education and training systems in cooperation with each other. Although it is essential to have a seamless and consistent education from undergraduate education, national dental practitioner examination, mandatory dental clinical training for dentists, and then to continuing education program, there is still the lack of continuity.

For the period of time from entry into dental college/school of dentistry, basic education, through clinical clerkships, and graduation to post-graduation clinical residency, the Ministry of Education, Culture, Sports, Science and Technology and the Ministry of Health, Labour and Welfare are currently discussing the revision of the core curriculum of dental education, the publicization of the CBT/OSCE examination for clinical clerkships, the clarification of the legal status of Student Dentist (dental students who perform dental procedures during clinical clerkships after passing the CBT/OSCE examination), the revision of the national dental practitioner examination, and the revision of mandatory dental clinical training system for dentists. It is essential for the Japan Dental Association to continue to actively advocate in each of these directions so that they can be fulfilled.

After completing the mandatory dental clinical training, the continuing education program organized by Japan Dental Association support the dentists to brush up and catch up on their knowledge and skills (Chart 52). In order to maintain the standard of dental care and provide qualities and skills after graduation, it is indisputably important to enrich the continuing education system of Japan Dental Association by the cooperation with prefectural dental associations, the Japanese Association for Dental Science and its subsidiary academic dental academic societies.

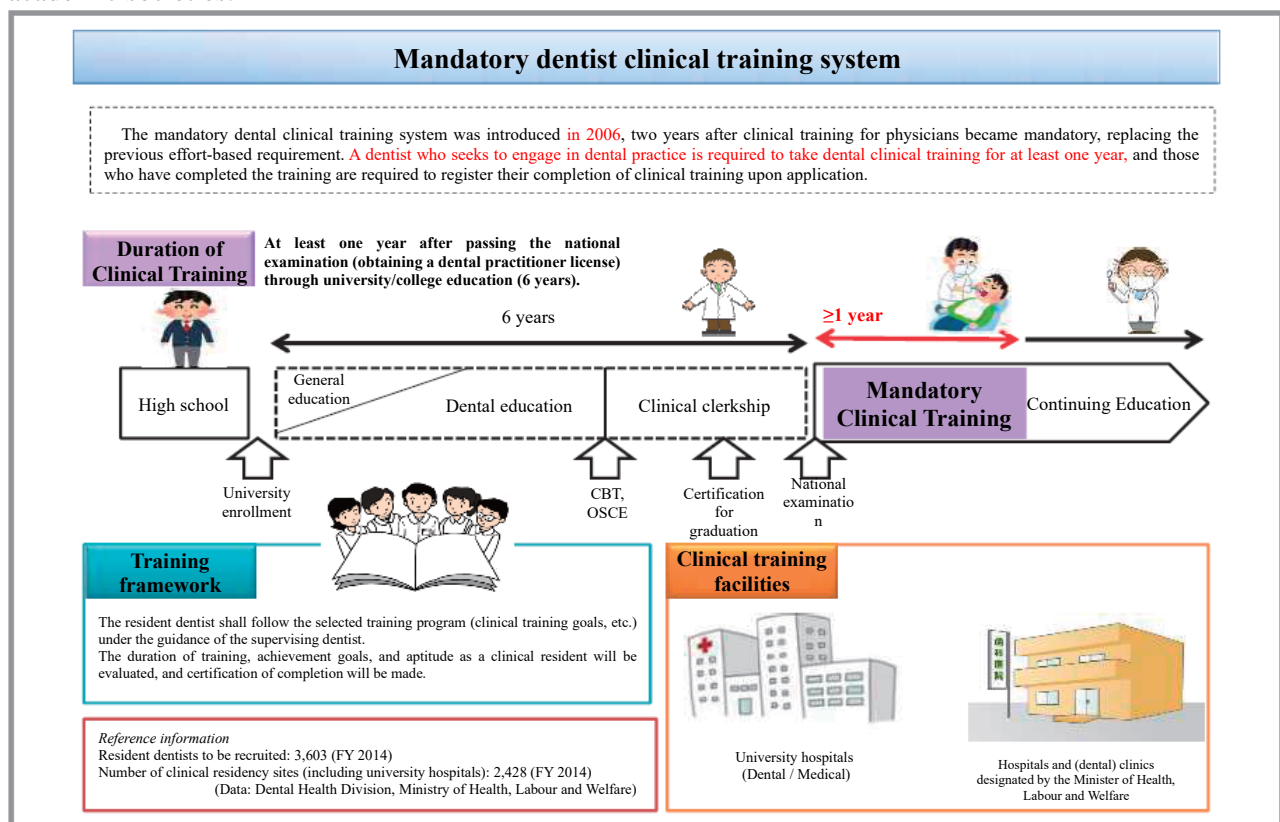


Chart 52 Mandatory dentist clinical training system and continuing education

Cited from data of the 2nd Meeting of Review Committee on Improving the Quality of Dentists of Ministry of Health, Labour and Welfare

The participation ratio of members in continuing education programs to date has shown a steady downward trend since the statistics began to be collected (Chart 53). On the other hand, the number of participants in the continuing education seminars, where credits can be earned for continuing education programs, has been on an increasing trend, although there are differences from year to year (Chart 54). New approaches such as offering coursework on DVD or via live stream over the past several years have been made to encourage participation in these continuing education seminars, and we must consider what approaches and coursework modifications are responsible for increasing the participation. The number of credits earned may have been modified due to changes in this education system or in the accreditation criteria for the training sessions themselves, and thus close scrutiny is necessary. Efforts should also be made to increase the participation ratio in continuing education programs.

At the same time, with an eye toward the vision of dentists in 2040, an image of excellent dental training will be presented to the public. In order to present an image of excellent dental training to the public, we are in the process of enhancing our training content and training system as an organization that provides high-quality dental care.

The enhancement of continuing education is also a common issue in foreign countries, and it is discussed among countries at the annual congress of the FDI (World Dental Federation), in which the Japanese Dental Association is the regular member. The content of this program covers a wide range of topics, including caries prevention, advances in dental technology, and changes in the structure of disease. It is also important from the perspective of providing know-how for the training program in Japan's dental care system with increase of ageing population, which is ahead of other countries.

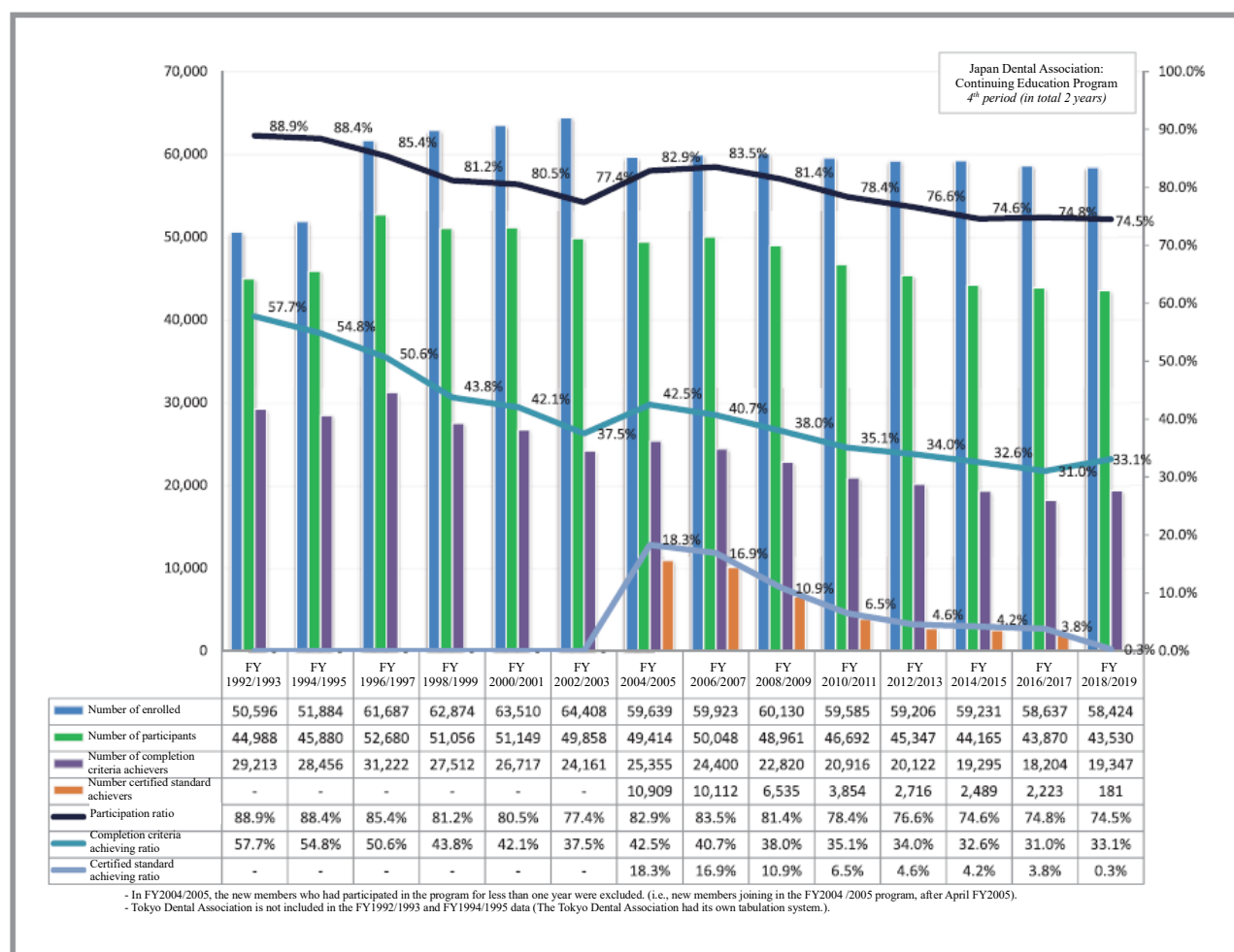


Chart 53 Participation in the Japan Dental Association continuing education program

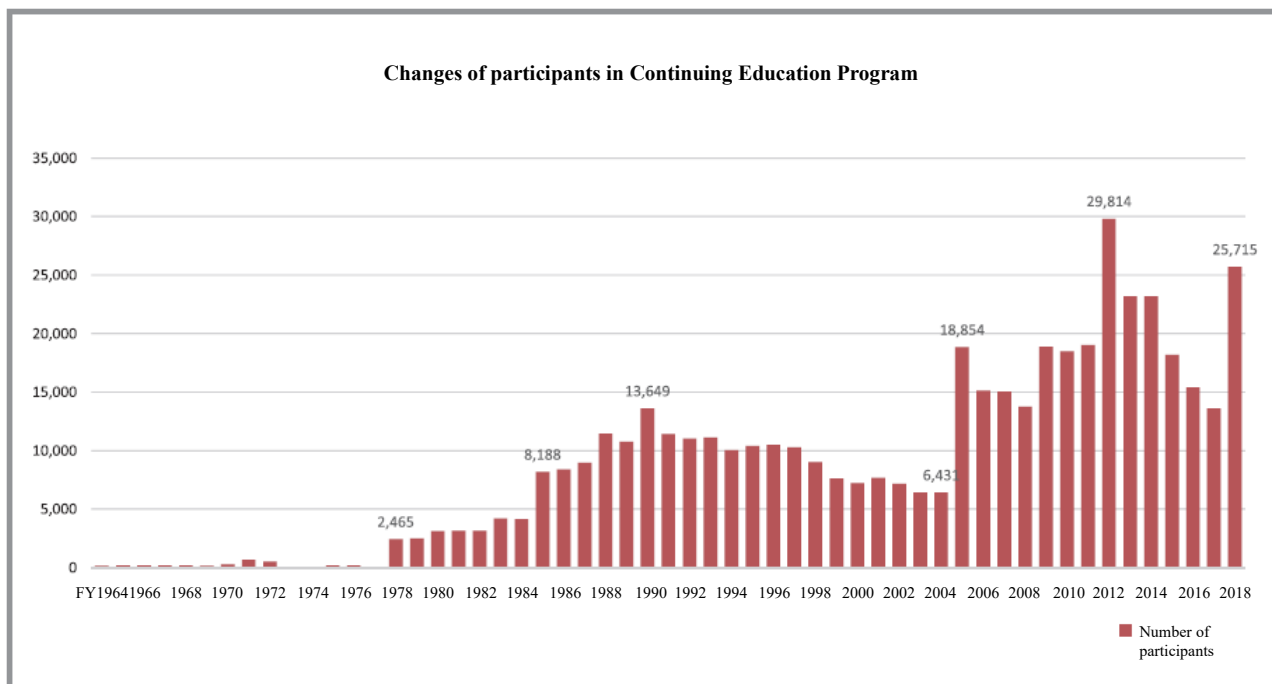


Chart 54 Number of participants in continuing education program

Direction to be aimed

In the future, it is important to provide training opportunities and training materials in consideration of the environment surrounding the dental society and changes in the medical care system in order to enhance the continuing education seminar and increase the participation rate and number of completers in the continuing education program.

We will continually examine to what extent this continuing education program contribute to the improvement of dentists' qualification, whether the standards for completion and certification are appropriate, and whether it leads to the development of dentists with sufficient knowledge and experience and the qualifications to provide specialized dental care that is trusted by patients. We will continue to examine the future of continuing education, predicting future changes in dentistry and the dental care system, and will continue to provide education that meets the needs of the times. Separating from the biennial review of training programs, the Japan Dental Association has been attempting to reform continuing education programs every 20 to 30 years, and a new grand design for the Japan Dental Association continuing education program is planned for 2030.

Providing the know-how of the training system that has been developed through continuing education to foreign countries is also essential for the establishment of a dental care system with a global perspective. In particular, the content of the continuing education program, which contributes to extending healthy life expectancy in Japan's super-aged society, will be helpful for countries that will be facing a super-aged society in the future.

◆ Actions for implementation ◆

- Developing a grand design for the Japan Dental Association continuing education program (by 2030)
- Response to the revision of the core curriculum for dental education
- Response to reassessment of the national dental practitioner examination and mandatory dental clinical training system
- Discussion of Japan Dental Association certified dentist system
- Providing and collecting educational materials related to continuing education program to foreign countries

7) Reinforcement of organizational strength of Japan Dental Association.....

Assessment of current status and challenges

As mentioned in the first section: Introduction, the enhancement of dental care, including oral health care, will lead to great benefits for patients and the public, and will also contribute to the finances of medical insurance and, by extension, to the national finances.

The Japan Dental Association plays a significant role in enhancing dental care. The projects undertaken are diverse. For example, in addition to implementing continuing education programs to improve the qualifications of dentists, the regional dental associations serve as contact points and cooperate with the government to engage in statutory dental checkup programs. We also advocate to the government concerning dental healthcare policy for protecting the health of the public that individuals would find difficult to do and our advocacy was realized.

Despite this significant presence of the Japan Dental Association, the organization rate continues to decline gradually and there is a tendency that the number of non-members is increasing (Chart 55). Currently, there are approx. 100,000 dentists in Japan, of whom approx. 65,000 are members of the Japan Dental Association. The organization's share of the total number of dentists is about 65%. The average age of members is 61 years. A simulation of the future of the Japan Dental Association conducted in FY2014 predicted that membership in 2040 would stand at 48,347, declining with Japan's declining population. The average age of members is also gradually ageing, and by 2040, the number of lifetime members who have been with the association for 30 years or more and are 70 years old or older, who are exempt from paying dues, is projected to exceed 35% of all members.

The ageing of the dental profession and the growing number of non-member dentists are our issues. The members of the dental associations support dental service at home, holiday dental care, and the integrated community providing dental care system, so that the shortage of dental care providers could have a negative impact on the community dental care delivery system.

If the organizational strength of dental associations declines, it is concerned that the opinions of clinical practice will not be reflected in national institutional policies, and that it will be difficult to contribute to the maintenance and promotion of the health of the nation's population. Looking to the future, we believe that the membership ratio of the Japan Dental Association should exceed 90% of the country's dentists.

The number of dentists (dental facility practitioners) and members by prefecture is shown in Chart 56. The yellow portion of the bar graph indicates the number of non-members, and there are many non-members in Tokyo and other large cities (in the prefectures of Chiba, Saitama, Kanagawa, Aichi, Osaka, and Fukuoka).

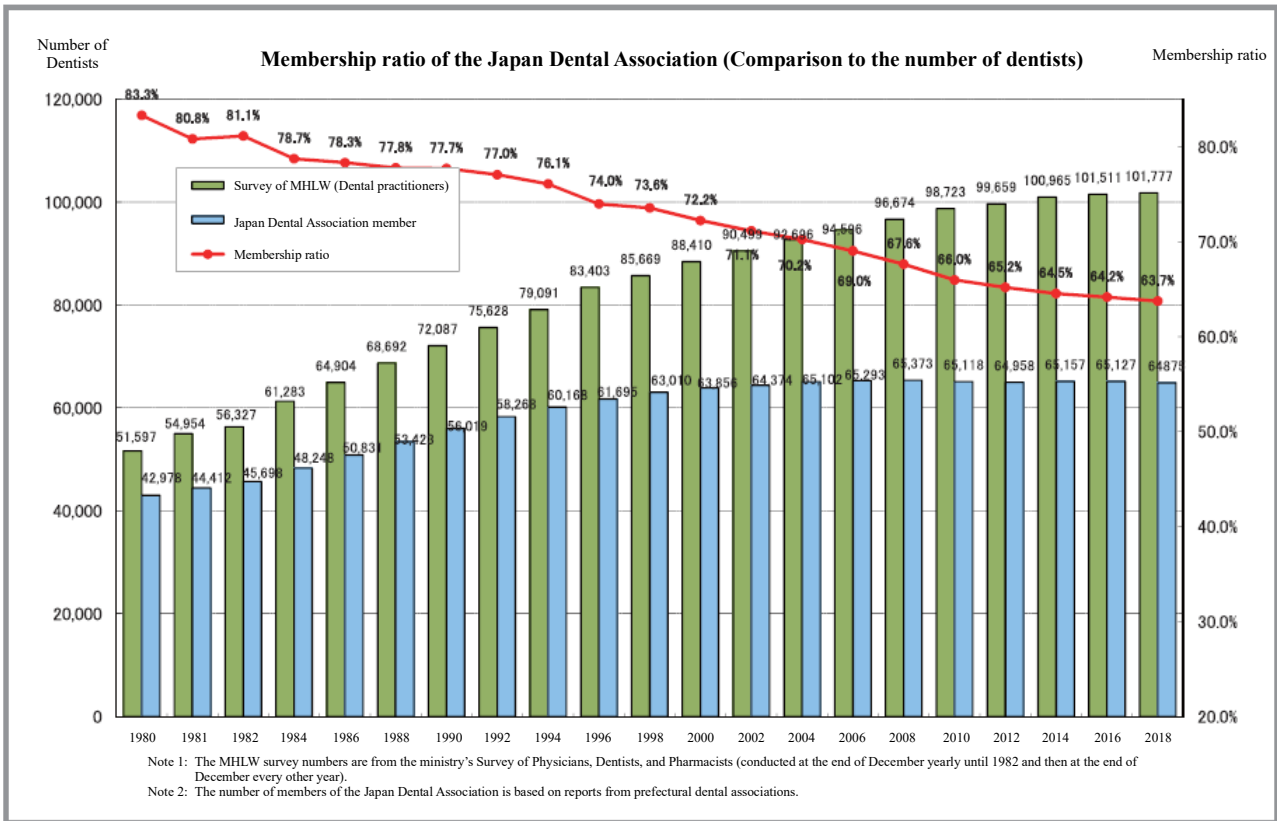


Chart 55 Membership ratio of Japan Dental Association (comparison to the number of dentists)

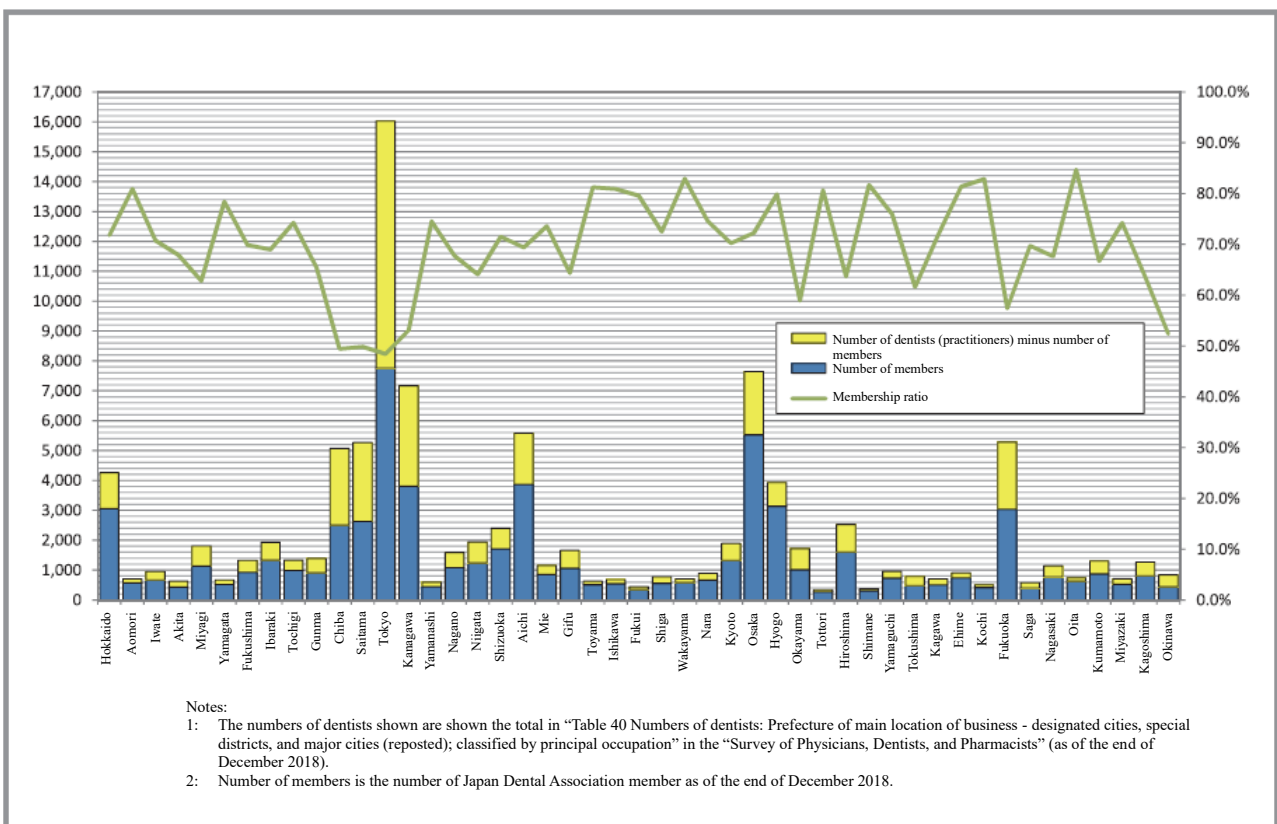


Chart 56 Number of dentists (practitioners) and number of Japan Dental Association members by prefecture

Direction to be aimed

The Japan Dental Association, prefectural dental associations, and regional dental associations are striving, from their respective standpoints, to enroll non-members, but their efforts have not yet led to a higher membership rate. Although it is difficult to find an immediate solution, it is necessary to consider and actively present further member support measures, including prompt and high-quality information provision to members, enhancement of advocacy activities and scientific training programs, and support through the Japan Dental Association Welfare Mutual Aid Insurance and Pension System.

In order to increase the organization rate, it is extremely important that many members have a common understanding of the significance of the association's existence. To this end, in cooperation with prefectural dental associations, we will promote the development of professionals who will be responsible for the future, and at the same time, we will constantly review the organization and the projects we conduct to reduce the burden on our members.

In terms of engaging new members, cooperation with universities is essential, and we will also promote active approaches to prospective dental students and clinical residents for membership.

Because membership will not increase unless the organization is attractive to begin with, we would also like to make efforts to advocate the activities of the Japan Dental Association, which contributes to the maintenance and promotion of the public's health to entire society and the public.

◆ Actions for implementation ◆

- Enhancing and expanding policies for supporting members of the Japan Dental Association
- Implementation of comprehensive measures in cooperation with prefectural dental associations and dental college/universities
- Strengthening public awareness of the activities of the Japan Dental Association

4**Support personal prevention and health promotion****1) Involvement in building a comprehensive healthcare system and contribution to urban development*****Assessment of current status and challenges***

As lifestyles continue to diversify in line with the declining birthrate and the ageing of the population, the establishment of a cohesive society in which individuals can live with peace of mind, making the most of his or her individuality and abilities, has become a social issue. To this end, it is important to adopt a comprehensive healthcare perspective that begins with prevention and also considers treatment, nutrition, exercise as well as overall lifestyle and social factors including personal care, life support, and purpose in life. The dental profession is expected to extend healthy life expectancy and improve quality of life through life course dental and oral health.

Since necessary information on daily self-care, eating habits, and nutrition changes according to life stages, it is imperative to consider measures to comprehensively develop health education and public relations activities that can smoothly reach those who need such information, according to the actual conditions of each community. In addition, as the correction of health disparities among regions and individuals has become an issue, a major challenge is how to approach those who have not been to dental institutions and those who are indifferent and do not respond to dental checkups and other examinations in the community.

As we have already touched on issues such as maternal health checkups, there are also differences in the level of dental care education for school-aged children in different regions, and it is difficult to grasp the actual status.

The dental checkup system during the working period has not been legislated, and there is concern that the oral health gap between individuals will widen depending on how they obtain necessary dental health information. Furthermore, depending on the actual conditions of the community, the basic concept of an integrated community care system is to ensure support for medical and long-term care, prevention of long-term care, and housing, so that the elderly can live independently in their own community as long as possible according to their abilities. However in reality, there are temperature differences and many issues to be addressed.

If community-based health promotion is accelerated, it will increase the attractiveness of the area and contribute to the community development. Dental care is not just about treating teeth; it supports people's lives, and based on such a perspective, various measures need to be developed comprehensively in each region.

Direction to be aimed

In order to promote a wide range of initiatives within the community, first, it is important that dental clinics are firmly positioned within the integrated community care network. This means sharing information and cooperating with other medical institutions such as medical-dental cooperation, long-term care service institutions, and daily living support providers. If you look for a cooperative institution after a patient arrives, you are not cooperating. Patients must be able to move smoothly over a network that has already established a close relationship with the cooperating institutions and is aware of each other's situation well.

Second, with the coming of the entire society in a declining population, not only the elderly but also various other people may lose human connections and become isolated. In large cities, people are less connected to the local community and are more likely to be isolated, and isolation is likely to cause difficulties in their lives and deterioration of their health status. To avoid these outcomes, it is critical to advance a variety of health-supporting activities to help building communities. The community building is a critical element of integrated community care. To this end, it is important to create a community where people with and without dementia, people with and without disabilities, the elderly and children, students and young people, and all kinds of people can mix, enjoy themselves naturally, and draw out their strengths to create a vibrant and energetic community, one that is open to all people. In response to these community development efforts, dental clinics need to play a role in supporting people to eat from their mouths and live with a sense of fulfillment. To begin with, dental clinics have the characteristic that patients continue to visit even if they are in good overall health, and will strive to support the health and lifestyle of all kinds of people throughout their life course. Comprehensive information on the health indifference group will be obtained through using the data from local governments, the National Health Insurance System, Health Insurance Claims Review & Reimbursement Services, and other sources, as well as NDB data, to ensure that necessary medical care is provided to those who need it in just proportions.

For the people themselves to engage in autonomous health promotion, it is extremely useful to establish a system that centrally manages health information such as life course health checkup records (PHR). In order to promote the centralization of dental checkup data, the Japan Dental Association will formulate effective dental data for life course including the "Standard Code Specification for Oral Examination Information," and develop a cooperative system.

◆ Actions for implementation ◆

- Ensuring clear positioning of dental institutions in the integrated community care network
- Promoting health and life support throughout the life courses of all people by utilizing the characteristics of dental clinics
- Efforts to build a centralized management system for dental checkup data across all generations

2) Development of new advocating strategies.....

Assessment of current status and challenges

As we enter the era of 100 years of life, the people's expectations for oral health have increased. However, the image of "dentists = curing dental caries," or dentists drilling and filling teeth or making dentures to replace missing teeth, has taken hold among the public.

Therefore, it is important to clarify that "dentists do oral health care," and to communicate the image of dentists who support people's lives, to match the image of dentists that people are looking for with the image of dentists that dentists think of, and to conduct advocacy activities so that all people will be able to carry thorough their own oral health care. By improving oral health care, it is important responsibility to extend healthy life expectancy and enhancing quality of life, so that people can enjoy a life with full of smiles, including eating delicious meals with their own mouths until the end of their lives.

In the days when people's main sources of information were television, newspapers, and magazines, the emphasis was on how to correctly convey information to the people who only used these media to receive it. However, this was a one-way exchange of information, and the information was not always accurately conveyed. Now in the age of the Internet, people actively get their information using their smartphones. Questions can be answered with a simple search, and the public relies less and less on television and newspapers for information. They are searching, watching news and videos at any time and any place, even when they are on public transportation or standing in line.

In the future, browsing time of news and other information on smartphones will become increasingly longer. The key will be how dental information can be incorporated into the time spent on smartphones. To achieve this, it is important to provide information that people want to know, in other words, to create contents that "catch" the attention of people. When creating content, it is important to target specific content, taking into account the age and lifestyle of people, and to effectively inform people of the existence of the content.

The Typical Lifestyle People Awareness Survey on Dental Care conducted by the Japan Dental Association in 2018 revealed that more women than men regularly visit a dental clinic for oral checkups but that over the age range from 20s - 70s, regular checkup seekers decreased along with age. It was clear that mothers with small children are interested in child discipline, tooth brushing, and oral hygiene, but are not sufficiently informed. Women in their 20s - 30s, especially mothers, are often the hub of their families and communities, and if more women in this generation receive regular checkups, it is considered that the potential for a spread to all generations will increase.

Direction to be aimed

Overall, the development of a new slogan and visual identity is urgently needed to visualize and communicate the social role of the Japan Dental Association to the entire society. In doing so, it is necessary to raise awareness of the overlap between the value provided by the Japan Dental Association and the interests of people, and to use this overlap as the main message.

So, what is the kind of content that strongly appeals to people? To answer this question, we must specify the objectives of our advocacy campaigns, devise strategies, and strive toward our goals. In order to realize the goal, the concept of the marketing funnel is used to classify into awareness, interest, consideration, and action, and to implement effective advocacy programs.

First, “Who do we communicate to?” In other words, it is essential to set targets and develop advocacy programs appropriate for these segments. Then, it is necessary to consider a advocacy strategy that can be brushed up by determining effectiveness measurement and metrics and repeating the PDCA cycle. It is effective for advocacy strategies to define targets based on the Survey of General Public Awareness and the Survey of Dental Diseases, and then use digital technology to establish a realistic and detailed portrait of the person, including age, gender, place of residence, occupation, position, annual income, hobbies, special skills, values, family structure, upbringing, how they spend their holidays, and lifestyle. This will help to deepen understanding of the personality and unify perceptions among advocacy team. Also, setting up detailed information based on quantitative digital data can increase the accuracy of the people's point of view. Furthermore, once the image of the people becomes clear, it is possible to focus only on the most effective ideas.

In addition, the target audience should be divided by age gender, and calls: women who are in the center of the family and in their 20s - 30s with children from the fetal stage (minus one year old), preschoolers, school-age children, and children; business persons in their 20s - 40s for whom dental checkups are not mandatory; and men and women in their 50s and beyond with periodontal disease and other oral frail issues in mind. We must develop a detailed persona for each of them and come up with advocacy strategies.

Advocacy campaigns for people include traditional services such as TV, radio, newspapers, magazines, signage, and symposiums, as well as online services such as the Internet and SNS. In addition to the enrichment of each content, these must not be stand-alone or one-off events, but must intertwine with each other to reach large number of people. The former is a one-way flow of information, while the latter requires consumers to come for information, so it is important to create measures that allow them to use this information while also acquiring enhanced services beyond it. To this end, press releases, SNS, contents, tie-ups, and events should be effectively utilized to create opportunities for contact with the people.

◆ **Actions for implementation** ◆

- Formulating a new slogan and visual identity that immediately conveys the social role of the Japan Dental Association.
- Selecting a target audience for advocacy and deploying cohesive advocacy campaign with sense of unity
- Utilizing the existing website of Japan Dental Association
Utilizing the 8020 TV including Theme Park 8020
- Designing and validation of KPIs (Key Performance Indicators) to review the result of advocacy campaigns

Example: Aiming to increase the following parameters in the Survey of the General Public Awareness about Dental Practice (target value for 2025 based on 2018)

People who regularly visit for dental checkups (envisioning an annual increase of 10%)

▶ Overall: 31.3% → 61.0% ▶ 20s - 40s: 27.8% → 54.1%

People who think their teeth and oral condition are healthy (envisioning an annual increase of 5%)

▶ Overall: 42.8% → 60.2% ▶ 20s - 40s: 42.6% → 59.9%

3) Expanding dental education in school settings.....

Assessment of Current Status and Issues

School dental health in our country is entrusted to school dentists. School dentists are “dentists who provide services including dental checkups, dental health guidance, and dental health education in non-university school settings on a part-time basis” as established in the School Health and Safety Act, and are in the positions of both “dentists” as established in the Dental Practitioners Act and “school dentists” as established in Article 23 of the School Health and Safety Act. Their duties cover the three school health domains: health education, health maintenance, and organizational activities. As the professionals of health care, they work with school personnel, students, parents, and local residents to promote the health care of children.

Periodic dental checkups are conducted in all schools as part of school dental health care and the results of the checkups are reported and treatment recommendations are made as follow-up measures. Nevertheless, few schools leverage the findings of dental checkups in their health education and coordinate their health education and health management programs in accordance with the characteristics of the dental health of the school.

Recent school dental checkups have revealed an increase in children without dental caries but at the same time a sizable number of children now have too many dental caries. They also show children with various conditions including gingivitis that put them at risk of future periodontal disease as well as development failure of oral function related, for example, to dentition, occlusion, temporomandibular joint, oral habits, or mastication.

Since correct understanding of dental and oral health and the development of oral cleaning habits are more effective when practiced at home in addition to dental health education at school, it is necessary to educate parents to strive for healthy lifestyles and eating habits, and ask for their cooperation.

School dental checkups have major diagnostic categories referred to as CO for dental caries (i.e., observe for caries) and GO for gingivitis (i.e., observe for periodontal disease). CO and GO represent indicators of extremely early stage of dental caries or periodontal disease. It is believed that if this condition can be recognized and the oral environment can be improved, it is possible to delay the progression of the disease or even restore it to a healthy state. Encouraging school children given these diagnoses to hold a mirror and look in their mouth to take note of their dental or oral problems and then seek proper care would be an excellent exercise in active learning within school dental health education.

Dental health education in schools is not always sufficient because student instruction is left to a teacher at the school. To be properly engaged in dental health education, school dentists must closely coordinate with the principal, nurse teacher, teachers, and other school staff to reach a mutual understanding, but few schools have a system in place for this.

On the other hand, school dentists are often in charge of school dental health care with a treatment-centered approach. School dentists do not conduct regular dental checkups, but it is essential for them to explore what is truly needed for dental health education at the schools where they are in charge of and to provide advice to teachers and others.

Direction to be aimed

Although the number of children in Japan with dental caries continues to decline, regional disparities in the

prevalence of dental caries and DMFT (decayed, missing, or filled teeth) can be seen. Although it is clear to dental professionals that fluoride rinsing in schools is an extremely effective way of reducing dental caries from a public health standpoint, however, there are still many voices of opposition from nurse teacher and parents in the school setting. To address these issues, it is necessary to disseminate accurate knowledge on the application of fluoride for the prevention of dental caries through school dental health education.

In addition, due to the significant decline in the working population in the coming years, foreign immigration from around the world is expected to increase more than ever before in order to secure a workforce. Since the number of opportunities for these foreign children to receive school education in Japan is expected to increase, it is essential that foreign parents and guardians understand Japanese school dental health activities.

As we enter the Society 5.0 era, in which the government is attempting to solve various issues facing society through the digital revolution and innovation, we would like to promote the use of ICT (information and communication technology) in the field of school dental education. It is now possible to start showing school children their teeth and mouths and/or pointing out problems on a laptop computer or tablet during school dental checkups. If they become more widely used, they will lead to more detailed dental health guidance, and since data from dental checkups will be digitized, epidemiological analysis will also be simplified.

In realizing this goal, it is desirable to develop learning programs, tools, etc. to promote dental health education using ICT. This development will require not only close coordination between the Ministry of Education, Culture, Sports, Science and Technology and Ministry of Health, Labour and Welfare but also deeper ties among the Japanese Association of School Dentists, Japanese Association for Dental Science, and Japan Dental Association to ensure that consensus views of the dental society are incorporated.

Once the Society 5.0 era is in earnest, not only school dentists but also local family dentists, university faculty members, and others will be able to easily participate in school dental education, which will increase the diversity of educational programs.

In addition, it is desirable to expand the scope of assignment of school dentists to include universities and vocational schools. Although the School Health and Safety Act mandates dental checkup to high school, students attending vocational schools, universities, and graduate schools, as well as young people who are not attending school for various reasons and attend free schools, etc., are responsible for their own dental care. In the current lack of an adult dental checkup system, we believe it is important for school dentists to take the lead in providing oral health care for the age group from 18 to early 20s (see page 33).

◆ Actions for implementation ◆

- Nationwide expansion of fluoride mouth rinsing through cooperation with school education sites
- Promoting understanding of Japanese school dental health activities for foreign children and their parents and guardians
- Promotion of the use of ICT in school dental education settings and cooperation in the development of learning programs and tools for its implementation
- Strengthening efforts to expand the school dentist system

4) Expansion of support for better eating

Assessment of current status and challenges

There is a saying, “To eat is to live, and to live is to eat,” and getting good nutrition from the mouth is considered the secret of healthy longevity. In addition, eating by mouth is a source of energy and it leads to the joy of living. In order to ensure enjoyable eating habits through life course, it is extremely important to promote nutrition education from a way of eating that is rooted in lifelong dental and oral health, and dentists, as oral specialists, have an important role to play.

Nutrition education support through the way we eat differs according to life stages, such as childhood, adulthood, and old age.

Eating problems facing adults should be considered separately for adolescence (19 - 39 years old) and mature adulthood (40 - 64 years old). One of the problems in the former age group is breakfast skipping. Many people in this age group, especially men and women in their 20s, skip breakfast. Younger generations have a lower percentage of those who eat a combination of a staple meal, main dish, and side dishes at least twice a day, and a higher percentage of them regularly use lunchboxes, take-out meals such as boxed lunches and side dishes, and fast food. It is necessary to guide and encourage this age group to understand that a healthy life rhythm is built from the daily rhythm of meals, to avoid missing breakfast, and to eat nutritionally balanced meals and the right amount of food for them, even if they eat in or out of the home. As a measure to address this issue, we will facilitate the use of company cafeterias by the younger generation, which serve healthy meals to maintain and improve the health of employees and prevent lifestyle diseases.

Mature adulthood is a time when they take on important roles in society and in the family. They are more likely to be under added mental stress, such as managers with heavy responsibilities at work, and they tend to neglect paying attention to their own health as well. Overeating at work-related gatherings compounded with a lack of exercise can lead to hyperglycemia, dyslipidemia, and hypertension as well as metabolic syndrome, which elevates the risk of heart disease and cerebrovascular disorders. For these reasons, it is important to review eating, lifestyle, and exercise habits with lifestyle-related diseases in mind.

Direction to be aimed

In order to achieve the goal of eating from one’s own mouth until the end, it is important to have the right knowledge and to be interested in the food issues that precede it. This dietary education will be developed in cooperation with dietitians and other related professionals who have been taking an active role in nutrition.

Recent studies are increasingly showing that irregular eating habits and poorly balanced meals can lead to periodontal disease, and we will work to build evidence.

Although periodontal disease begins in adolescence and gradually progresses, people rarely notice the symptoms of this so-called silent disease until it becomes severe. Since dental checkups in adulthood are currently not legally required, it is very important for people to have regular dental checkups by their family dentists once a year for their dental and oral health, and for them to fully understand the necessity of reviewing their disordered eating habits. We will advocate the awareness for this purpose.

In mature age, they begin to feel the symptoms of periodontal disease. Periodontal disease has been linked to diabetes, cerebrovascular disorders, heart disease, and a range of other diseases, which highlights the importance

of dental health guidance targeted at preventing periodontal disease from worsening and thereby preventing these diseases. Since periodontal disease examinations based on the Health Promotion Act are available in each municipality from the age of 40, we will encourage the active use of these opportunities for periodontal disease examinations in mature age groups.

◆ **Actions for implementation** ◆

- Promotion of appropriate ways of eating in cooperation with the Japan Dietetic Association and other related organizations
- Building evidence on the link between eating habits and periodontal disease [by 2030]
- Advocating introduction of occupational dental checkups by revision of the Industrial Safety and Health Act

5

Contribute to entire society by addressing diverse needs

1) Expansion of initiatives to sports dentistry

Assessment of current status and challenges

In our country, which boasts the world's most advanced society in terms of health and longevity, people of all ages and genders love a variety of sports. However, the country lacks wide awareness, of the importance of using a mouthguard to prevent sports-related injury or the relationship between athletic performance and proper occlusion.

Although somewhat behind sports medicine, dentistry was added to the medical checkups for Japanese athletes, which had been mandated for internal medicine and orthopedics, after the 1990 Seoul Olympics. Entire social awareness of sports dentistry gradually rose thereafter. The Sport Promotion Act, enacted in 2011, included "dentistry" to the article on "Promotion of scientific research on sports." Then in 2012, the Ministry of Education, Culture, Sports, Science and Technology called for "Advocacy of the effects of using a mouthguard" in its Basic Sports Plan. In addition, since 2013, the Japan Dental Association has been cooperating with the Japan Physical Education Association (now, Japan Sport Association), a public interest incorporated foundation that oversees Japan's athletic organizations and prefectural sports associations, to train certified sports dentists.

The role of sports dentistry is protecting the teeth and mouth from injury, providing dental health care, and improving athletic performance. Their primary responsibility is to ensure safety during sporting activities by protecting the mouth of athletes from trauma. Athletes and sports enthusiasts whose dental health is too poor to eat properly have difficulty getting proper nutrition, which makes it difficult for them to perform up to their potential. Although more investigation is needed, stabilizing occlusion is thought to improve contractile strength of muscles such as grip and the strength of the back muscles, contributing to better athletic performance. Studies are showing that the center of gravity of the body shifts less (i.e., the axis of the body deviates less) as the surface of contact between the upper and lower teeth increases. This finding suggests that fitting frail elderly people with partial dentures to supplement missing teeth could help prevent falls.

Direction to be aimed

As the level of evidence supporting a relationship between dental and overall health is increased, we will strive to compile information on findings from research and development projects in sports dentistry and broadly communicate this information as main Japan Dental Association advocacy content. We will also cooperate with the Sports Dentistry Task Team of the World Dental Federation (FDI) and provide international information about sports dentistry to internal and external entities.

In particular, the importance of wearing and maintaining sports mouthguards should be addressed under the Basic Plan for Sports of the Ministry of Education, Culture, Sports, Science and Technology, through measures such as holding training sessions for the junior generation, leaders of club activities at elementary and junior high schools, and officials of various athletic organizations, in order to promote and establish the use of mouthguards in sports settings.

In the future, we will work to expand the number of consultative sports events in which dentistry supports national sports, promote clinical dentistry at the venues of sports festivals such as the National Sports Festival, build new partnerships with various sports organizations, and conduct research and development in the field of sports dentistry and its human resource development. To realize this goal, it is essential to strengthen cooperation with the Ministry of Education, Culture, Sports, Science and Technology, the Ministry of Health, Labour and Welfare, Japan Sport Association, Sports Dentist Council, the Japanese Academy of Sports Dentistry, the Japan Association of School Dentist, etc.

◆ **Actions for implementation** ◆

- Enhancement of training for sports instructors at elementary and junior high schools, etc. [by 2025]
- Promoting the presence of dentists at sports festival venues such as the National Sports Festival [by 2030]
- Promotion and awareness of sports dentistry in each athletic organization
- Promoting research and development in the field of sports dentistry

2) Enforcement and enhancement of dental care response to disasters.....

Assessment of current status and challenges

The Japan Dental Association's organized response to disasters began in 1985 with the identification of the victims of the Japan Airlines plane crash. The dedication and hard work of the Gunma Dental Association and university staff in identifying 530 passengers in just over two weeks was widely reported to the public. This experience was also utilized in the Great East Japan Earthquake of 2011, when a total of 2,600 dentists collected approximately 9,000 bodies dental findings in the first four months after the disaster struck, making an unprecedented contribution to the entire society and reaffirming the usefulness of dental findings in identification.

The Japan Dental Association trains dental coordinators for disasters and has published the "Dental Association Action Plan for Large-scale Disasters and Emergencies (with a victim identification manual)," "Business Continuity Plan for Large-scale Disasters and Emergencies," and "Manual for Directors and Office Staffs in Large-scale Disasters and Emergencies." Furthermore, we have executed mutual agreements with 7 Kanto-region prefectural dental associations on the use of dental association facilities in the event of disasters and emergencies.

In order to support the health of disaster victims in the event of a large-scale disaster, it is extremely important to prevent earthquake-related deaths by providing emergency dental care, oral health care in evacuation centers and temporary housing, and especially by preventing aspiration pneumonia. In recent years, the number of earthquake-related deaths due to pneumonia appears to be decreasing as a result of the efforts of those involved.

As described above, responses to disasters are wide-ranging, however, in conjunction with the national government's efforts to strengthen the land, and disaster prevention and mitigation measures, the knowledge gained to date indicates that it is also important to prepare for possible large-scale disasters in the future.

Dental needs during disasters are ever-changing, and in Phase 1, the main focus is on oral surgical procedures for maxillofacial trauma and other injuries, which are performed primarily by hospital dentists and oral surgery departments. In Phase 2, the main issues are emergency dental care, continuation of previous treatment, and oral health care for health support. Phase 3 includes mid- and long-term health support, such as oral health care through rounds and visits, or denture treatment, etc. Cooperation with other professions, such as other medical relief teams and public health nurses, is essential, with a view to smooth transition to reopened dental care facilities.

Recently, we have seen more typhoons and other major natural disasters in Japan. New measures are needed to cope with heavy winds and rain in the short term along with overflowing rivers that they cause and power outages and suspension of water services in the long term. In addition, many special nursing homes for the elderly and long-term care facilities for the elderly were also affected by the disaster and the difficulties were revealed dealing with the vulnerable in a disaster, and measures should be taken to address this issue.

Direction to be aimed

At the site of a large-scale disaster, cooperation among multi-professionals involved in health care and welfare is indispensable. The Japan Dental Association has been entrusted by the Ministry of Health, Labour and Welfare with the "Disaster Dental Health Care Team Training Support Program" since FY2018, and is making efforts to develop human resources by holding disaster dental health care system training sessions. The purpose of this project is to train dental professionals and administrative staff who can respond appropriately and promptly in cooperation with related institutions and organizations, and to assign them to each prefecture (dental association) for the smooth development of disaster dental health care.

The Japan Dental Association also joined the Disaster Victims Health Support Contact Council, organized by the Japan Medical Association and seven other medical-related organizations, and for the first time, dentists and dental hygienists participated in the JMAT (Japan Medical Association Team) at the time of the 2016 Kumamoto earthquake. The participation in JMAT provides us with a valuable opportunity to quickly assess the dental health care needs at disaster sites, and we aspire to expand this nationwide. Clarification of the involvement of hospital dentists nationwide in DMAT and building relationships with DHEAT (Disaster Health Emergency Assistance Team) will also be promoted.

Furthermore, the Japan Dental Association will strengthen the foundation of the dental health care delivery system by deepening cooperation with prefectural dental associations and related organizations in times of disaster, aiming for designation as a "designated public institution" under the Basic Act on Disaster Management, so that activities can be carried out quickly and safely in times of disaster. To this end, we aim to have the Japan Dental Association participate in the Central Disaster Management Council.

At the same time, in order to strengthen the measures of information sharing, efforts will be made to enhance the Japan Dental Association videoconferencing system, promote online conference with prefectural dental associations, etc., and establish a safety confirmation system, etc. Our future goals include listing dental clinic

information in the Emergency Medical Information System (EMIS) of the Ministry of Health, Labour and Welfare and sharing dental healthcare information during large-scale disasters via J-SPEED (Japan - Surveillance in Post Extreme Emergencies and Disasters).

The Japan Dental Association will strengthen the support system for disaster-stricken areas in the event of a large-scale disaster in cooperation with related organizations, based on the Disaster Dental Health Care Liaison Council, the Comprehensive Review Conference on Disaster Countermeasures and Police Dentistry, and the Workshop on Disaster Dental Health Care System. We will work to develop a system that will enable us to provide solid dental health care throughout Japan even in the event of disaster.

◆ Actions for implementation ◆

- Developing human resources who can cooperate with related professions and contribute to dental health care in the event of disaster
- Promoting efforts to position the Japan Dental Association as a “Designated Public Institution” under the Basic Act on Disaster Management
- Reinforcement of information collection and dissemination system in the event of a disaster

3) Development of international contribution activities to drive dental care in the world……

Assessment of current status and challenges

The Japan Dental Association “Articles of Association” states in Chapter 2, Article 4, the purpose of the business, “The business described in each item of Paragraph 1 shall be carried out throughout Japan and, if necessary, overseas.” As this statement indicates, the Japan Dental Association is contributing to the international community from the perspective of promoting dental and oral health of mankind. The following five items are listed for international contributions. The current status and issues are described below.

(1) International contribution through the World Dental Federation (FDI)

As one of its international contributions, the Japan Dental Association is a member of the FDI and strives to achieve its objectives: the promotion of optimal oral health and general health for all people and research in dentistry. In 1983, the 71st World Dental Congress was held in Japan. In addition, our members have been appointed to the members of Council and Standing committees and contributing to the governance of the FDI. However, there is insufficient awareness of these efforts among relevant parties, including members of the Japan Dental Association. In recent years, we have been addressing the issue in particular, the specific international contributions of our participation in FDI are not well known.

(2) International contribution in cooperation with WHO

In March 2015, the Japan Dental Association and WHO held a world congress in Tokyo under the theme of “Oral Health for Super-Ageing Societies.” We, as the first country in the world to have a super-ageing society, have delivered the message to the world about Japan’s efforts. On the final day, the Tokyo Declaration on Dental Care and Oral Health for Healthy Life Expectancy was adopted. However, in addition to the fact that the conference was a stand-alone project, the relationship between WHO and the Japanese Dental Association is still inadequate and has yet to lead to continued cooperation.

(3) Support to the Asia Pacific region

As support for the Asia-Pacific region, our Association has been devoting to promote the Fellowship of the International Scientific Exchange Fund to 192 students (Chart 57) from 22 countries to date. We also provide lecturers to workshops and academic conferences on oral health, dental care, and dental medicine, dispatch personnel for oral health activities, and send materials related to oral health. While we intend to continue this type of support, it will be necessary to gather information on which countries need what, and to work in cooperation with other Japanese aid organizations, such as JICA (Japan International Cooperation Agency).

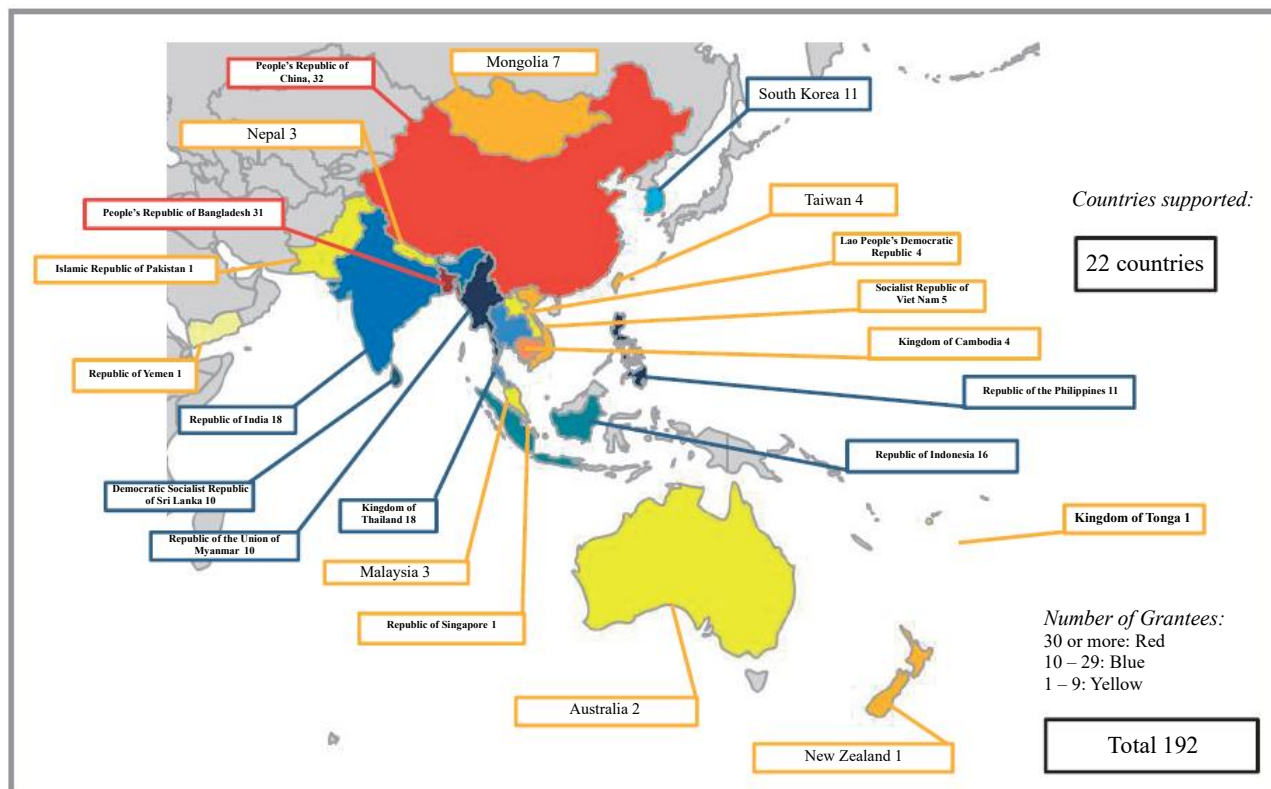


Chart 57 The Fellowship of the International Scientific Exchange Fund - Number of grantees by country

(4) Information exchange with Dental Associations in foreign countries

In the FDI World Dental Congress, our delegation takes time to hold the meetings with the United States, France, Germany, Australia, and New Zealand and other member countries to exchange information on dentistry in between business meetings and the General Assembly. In addition, a memorandum of understanding for comprehensive cooperation, mainly information exchange, has been concluded with South Korea to develop and enhance dental care in both countries. While these exchanges are important, we would also like to move forward with discussions on the nature of multilateral consultations as well as several countries consultations in FDI.

(5) Involvement in activities for the international standardization of dental materials, instruments, and technologies

Japan has been a member of the International Organization for Standardization (ISO) since 1952. In 1977, the Japan Dental Association began officially participating in the Technical Committee Dentistry (ISO/TC106), which was established in 1963 to decide on standards for dental materials, instruments, and technologies. ISO is less understood by those involved more than FDI in terms of its purpose and what it address and further “visualization” is needed, and we need to work more to make them visible. We will strive to take the initiative in communicating within the committee.

Direction to be aimed

The international contributions of the Japan Dental Association to date have been recognized, and Japan has established itself as a leading country in the practice of advanced dental care. If Japan is to remain a leading country in dentistry in the world, it must sustain and enhance more its international contributions to date.

The first concrete item to be addressed is the development of people who are well acquainted with international exchange and international affairs. Currently, none of the prefectural dental associations have a department for international affairs, and this makes it difficult to develop human resources involved in international exchange and international affairs. Therefore, it is necessary to assign appropriate persons from each prefectural dental association to the International Affairs Committee of the Japan Dental Association and have them play an active role over the medium to long term. If we can develop many internationally competent human resources, the international contribution activities of the Japan Dental Association will be enhanced.

In terms of developing the international perspective of dental professionals when they are dental students, we will enhance the Student Clinician Research Program and continue to support the Asia Pacific Dental Students Association to develop human resources.

The Japan Dental Association will have to actively inform its members what international contributions we are making through international exchange and international affairs, and what status in world dentistry these contributions have earned us. It is believed that as the understanding of members grows, their trust and loyalty to the Japan Dental Association will increase, and this will be an encouragement to those who is involved in international contribution. Oral health activities in the Asia Pacific region and support for developing countries will also continue. As a member of the Asia Pacific Regional Organization (APDF/APRO) of the FDI, the Japan Dental Association originally supported dental health activities in the Asian region in cooperation with countries in the Asia Pacific region, but due to uncertainties in the organization's management, our association withdrew from the organization in 2006, along with Australia and New Zealand, where it remains to this day. However, these situations would hinder their activities in the Asia-Pacific region, so we decided to launch a new cooperative organization, and in 2019, formed the APA (Asia Pacific Alliance) with the two aforementioned countries and approved its articles of incorporation. In the future, these three countries will contribute to the improvement of oral health in the Asia Pacific region and provide assistance to developing countries.

However, if APDF/APRO's Articles of Incorporation are revised and organizational management issues are resolved, we have confirmed that we will cooperate with APDF/APRO with a view to returning to APDF/APRO.

In addition, the World Health Organization Western Pacific Region (WPRO) is considering initiatives in the area of oral health as one of the measures to combat ageing in the Asia Pacific region. Based on the achievements of the "8020 Campaign" to date, we will support the dispatch of human resources to these regions, especially to developing dental care, through WPRO.

In addition, we will collect information to guide us in what international contributions the Japan Dental Association can make with a focus on the Asian Health and Wellbeing Initiative of the national government and other national Asian health strategies.

◆ **Actions for implementation** ◆

- Training personnel to be able to contribute to international exchange and international affairs
- Defining the role of the Japan Dental Association in the FDI (World Dental Federation) and international contribution
- Strengthening the relationship with the World Health Organization (WHO) and supporting the World Health Organization Western Pacific Region (WPRO)
- Strengthening the ability to disseminate information to members regarding the international contributions of the Japan Dental Association
- Oral health activities in the Asia Pacific region and support for developing countries

Strategic Roadmap

Five Pillars	2020	2025	2030	2035	2040
Contribute to disease prevention and prevention of serious illness, with the aim of extending healthy life expectancy	Stabilizing oral frailty measures in care prevention projects, etc. Achieving legislation for and expanding the scope of periodontal disease screenings [by 2025]	Embodying preventive benefits focused on oral function [by 2030]	Increasing the dental professionals in national government agencies and regional governments		Building infrastructure for universal dental checkups [by 2040]
Promote dental care that benefits communities	Achieving legislation for expectant or nursing mother dental checkups [by 2025]	Promoting and stabilizing the family dentist (targeting 75% awareness among the Japanese people)	Increasing implementation rate of dental service at home (at least 40% of all dental clinics [by 2040])		
Ensuring the high quality dental care delivery system	Achieving legislation on student dentists	Establishing new legislation to ensure a stable supply of dental hygienists	Online billing for medical fees (at least two-thirds of all dental institutions [by 2030]) Insurance coverage of new disease names and active measures for metal-free and palladium-free [by 2030]		
Support personal prevention and health promotion	Developing a grand new design for the Japan Dental Association continuing education program [by 2030]	Establishing the Dental Health Meeting [by 2030]	Formulation of the visual identity for the Japan Dental Association Developing and disseminating a model for livelihood support through dietary education Centralizing dental checkup data across all generations (using PHR)		Building the dental health education system by ICT utilization
Contribute to entire society by addressing diverse needs	Actively contribute to international health initiatives of the WHO and other organizations	Allocating dentists in all core disaster-management hospitals	Promote the presence of dentists at competition venues for the National Sports Festival, etc. [by 2030]		Increasing dentist involvement in disaster healthcare teams Bringing about nationwide use of standard code specifications used for identification purposes

National Policies, Institutional Reforms, etc.	Health Japan 21 (2nd round) (2013 - 2023)	Next Healthfulness Campaign (2024-)			
	7th Medical Care Plan (2018 - 2023)	8th Medical Care Plan (2024 - 2029)	9th Medical Care Plan (2030 - 2035)	Every 6 years	
	8th Long-term Care Insurance Program (Support) Plan (2021 - 2023)	9th Long-term Care Insurance Program (Support) Plan (2024 - 2026)			
	<ul style="list-style-type: none"> ● Revision of medical fee ■ Revision of long-term care fee 	<ul style="list-style-type: none"> ● (2022) ■ (2021) ● (2024) ■ (2024) ● (2026) ■ (2027) ● (2028) ■ (2030) ● (2032) ■ (2033) ● (2034) ■ (2036) ● (2038) ■ (2039) ● (2040) 			
	3rd Special Health Examination Plan (2018 - 2023)				
	3rd Medical Care Expenditure Regulation Plan (2018 - 2023)	4th Medical Care Expenditure Regulation Plan (2024 - 2029)	Every 6 years		

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