

## Key topic

# The “Long-lasting and Persistent” Labor Shortage since the 2010s—MHLW’s White Paper on the Labor Economy 2024

The White Paper on the Labor Economy 2024 titled “Responding to Labor Shortages,” published in September by the Ministry of Health, Labour and Welfare (MHLW), notes that the labor shortage that has continued since the 2010s in Japan has been “long-lasting and persistent” compared with past cases. In the labor market, the “labor supply-demand gaps” have arisen in a broad range of industrial sectors and occupations and the matching efficiency (ease of matching job applicants with job offers) has declined. The diverse labor participation by women, elderly people, and foreign nationals, is essential. The White Paper analyzes such situations and effective initiatives to mitigate the labor shortages in a case study from the nursing care services.

## I. Background to the labor shortage

### 1. Review of the past half century

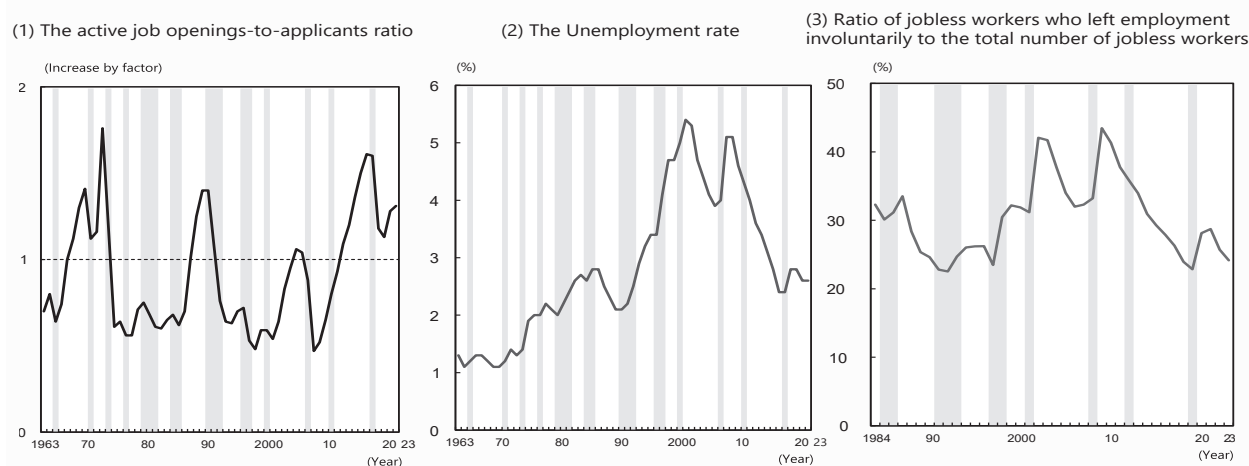
#### (1) Three phases of labor shortage

The white paper notes that in the past 50 years, there were three periods of labor shortage—(a) the “early 1970s” which corresponds to the late stage of Japan’s postwar high economic growth, (b) the “late 1980s through the early 1990s” which corresponds to the bubble economy era, and (c) the “2010s onwards.” The white paper describes the backgrounds of labor shortage in each period and the differences among them.

The active job openings-to-applicants ratio was higher than 1.0 in the periods (a) and (b) above as well as the late 2000s and the mid-2010s onwards. In particular, the ratio rose to a high of 1.76 in the period (a) and a high of 1.61 in the late 2010s.

While the unemployment rate was on an uptrend during those periods, the direction of its movement was generally opposite to that of the active job openings-to-applicants ratio. Specifically, in the periods (a) and (b), the unemployment rate was around 1 percentage point lower, and in the late 2010s, it was slightly over 2 percentage points lower, compared with the previous and subsequent period, respectively.

The active job openings-to-applicants ratio indicates the situation of a labor shortage when the total number of job openings is higher than the total number of job applicants (i.e., when the ratio is higher than 1.0). However, in Japan, this indicator covers only job openings and applications that go through governmental employment service offices “Hello Work.” In order to better grasp the true picture of the job market situation, it is necessary to refer to the unemployment rate. Unemployed persons are classified into three broad categories: “Jobless workers who left employment involuntarily,” “Jobless workers who left employment voluntarily (for their own reasons),” and “Jobless workers who seek a job to newly enter the labor market.” Depending on the factors that have caused job loss, how we should assess the labor market situation from employment data may vary widely. For example, “Jobless workers who left employment involuntarily” include those who have been dismissed because of stagnant corporate activity due to recession. As a result, even if the unemployment rate remains stable at a low level, it could be misleading to assess that labor supply is insufficient in production activity when the ratio of jobless workers who left



Source: Compiled by the MHLW (Office for Policy Planning and Evaluation for the Director-General for Policy Planning, and Evaluation) based on the Employment Security Service Statistics by the MHLW and the *Labor Force Survey* (basic tabulation) by the Statistics Bureau of the Ministry of Internal Affairs and Communications (MIC).

Note: The shaded areas indicate periods of economic downturn.

Figure 1. Trend in the employment situation

employment involuntarily to the total number of the unemployed is rising.

In light of that point, let us look at the changes in the ratio of jobless workers who have involuntarily left their job to the total number of jobless workers (Figure 1). In the period (b) above and in the late 2010s, this ratio declined just as the unemployment rate did. Although the ratio also declined in the late 2000s, its level remained high. That period immediately followed the deterioration of the employment environment that had continued since the late 1990s. When the Lehman Shock triggered the global financial crisis in 2008, employment-related indicators deteriorated across the board. The white paper offers the analysis that the improvement of the employment situation in the late 2000s was short-lived.

## (2) Employment Condition D.I.

Regarding the perception of labor shortage among companies, the value of the Employment Condition (DI) in the Bank of Japan's Tankan (Short-Term Economic Survey of Enterprises) report was negative (meaning that there are more companies that perceived a labor shortage than those that perceived a labor surplus) in the periods (a) and (b),

in the late 2000s, and in the period (c). However, in the late 2000s, the negative value of the DI was smaller than in the other three periods.

While taking into consideration such trends in the employment-related indicators, the white paper analyzes the characteristics of the labor shortages by phase: the periods (a), (b), and (c).

## (3) Economic growth and shift to services industries

In the period (a), the white paper shows that Japan's gross domestic product (GDP) in 1973 recorded a growth rate higher than 20% year on year, while the number of active job openings rose around 40% year on year that year. Regarding the situation in this period, the white paper gives the following assessment: "The extremely high economic growth rate strongly stimulated labor demand in the short term, resulting in a steep increase in job openings, and this presumably led to the tightening of the labor supply-demand balance."

As for the period (b), the white paper points out that "labor demand grew in the short term" due to the economic shift to services industries with a large labor-absorbing capacity, as shown by the GDP share of as large as 62% that the tertiary industry had in

1990. The white paper analyzes that the shortening of hours worked for full-time workers also contributed to a decline in labor supply, as exemplified by an increase in the percentage of workers with weekly hours worked of between 35 and 48 hours among full-time workers.

Regarding the period (c), the white paper points out the labor shortages that arose in line with the improvement of the employment situation due to economic recovery. As another factor behind the labor shortages, the white paper cites a further economic shift to services industries, exemplified by the GDP share as large as 74% in 2022 in the tertiary industry which has a strong employment-inducing effect

#### **(4) Labor supply (total hours worked basis)**

The white paper compares the labor supply in 2023 and 1990 on a basis of total hours worked on a (the number of workers  $\times$  hours worked per worker). In 2023, while the number of workers was higher than in 1990, weekly hours worked per worker were shorter. As a result, the total hours worked in 2023 were shorter than those in 1990.

The white paper observes the trend in rate of vacancies (the percentage of number of unfilled job openings for regular workers). In the 2010s, the rate of vacancy was not higher than in the bubble economy period of around 1990, but the rate of filled vacancy (the percentage of job placements relative to the new job openings) has been on a prolonged downtrend since the 2010s. In particular, the rate of filled vacancy among full-time workers fell to the lowest level in the past half century in 2023. The white paper indicates the view regarding full-time workers in particular that companies have a stronger perception of labor shortage than is suggested by the rate of vacancy because those workers are supposed to constitute the core of their workforce and because the process of recruiting full-time workers tends to take a long time. The white paper also points out that the labor shortages since the 2010s are “long-lasting and persistent” compared with the ones in the past periods, which were “short-lived and transient,” and are more serious than is suggested by the rate of

vacancy. Note that unfilled job opening (*mijusoku kyujin*) refers to a job offer posted by a business establishment (regardless of the recruiting methods) to fill a situation where there are no one available to do the job.

In addition, the white paper analyzes the relationship between the labor shortage and the aging of society. As the aging of society and population shrinkage are expected to continue, the white paper states that it is necessary to develop initiatives for improving labor productivity and the labor participation rate in order to maintain the vitality of our society.

## **2. The 2010s onwards**

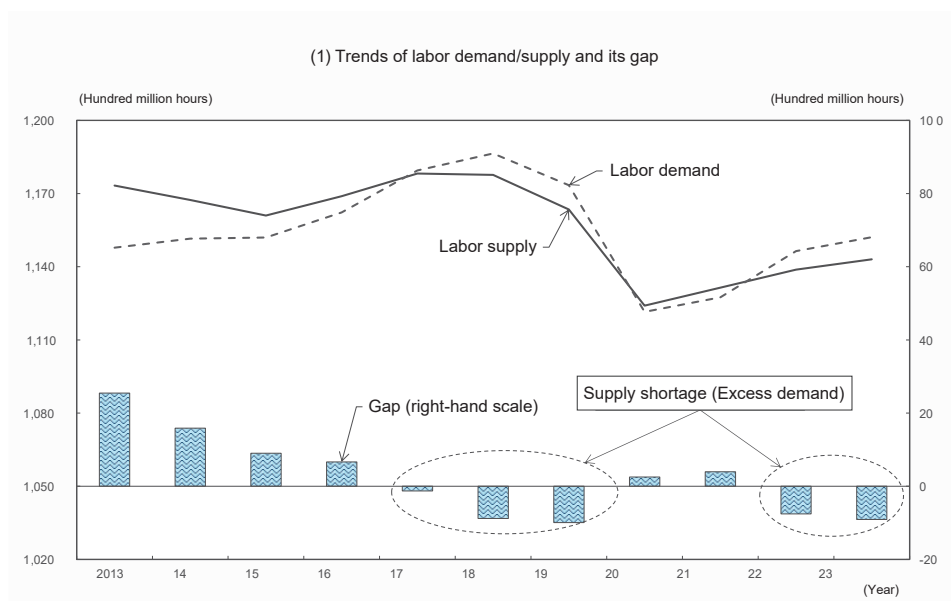
### **(1) Labor supply-demand gap negative again since 2022**

Next, the white paper analyzes in detail the situation of labor shortage since the 2010s. Specifically, it defines the labor supply minus labor demand as the “labor supply-demand gap” and indicates the sectors where there has been a shortage and the level of shortage quantitatively since 2013 (Figure 2).

Until 2019, labor supply remained almost flat. However, the labor supply-demand balance turned negative in 2017-2019 as labor demand increased. A negative labor supply-demand balance means that even if all job applicants obtain a job, companies’ demand for labor is not satisfied. It turned positive in 2020-2021 because of the effects of the COVID-19 pandemic, but has been negative once again since 2022 due to a recovery in labor demand.

### **(2) Labor supply-demand gap being positive but shrinking or being negative in all industries.**

Looking at the change by industry, the labor supply-demand gap has been positive but shrinking as a long-term trend or remained negative in all industries. Labor supply and demand have been almost balanced in the “manufacturing,” “information and communications,” and “transport and postal services” industries, while there has been a negative gap in the “wholesale and retail trade,” “accommodations, eating, and drinking services,”



Source: Compiled by the MHLW (Office for Policy Planning and Evaluation for the Director-General for Policy Planning, and Evaluation) based on the Survey on Employment Trends, the Employment Security Service Statistics by the MHLW and the Labor Force Survey (basic tabulation) by the Statistics Bureau of the MIC.

Figure 2. Estimation of the labor supply-demand gap

and “medical, healthcare and welfare.” In the “accommodations, eating and drinking services” in particular, the gap has remained negative since 2014. In the “manufacturing,” “information and communications,” and “medical, healthcare and welfare,” labor demand has been increasing at a higher pace than productivity. This trend is expected to continue along with an increasing demand for human resources with professional and technical skills due to the development of the ICT and a growing demand for workers engaging in medical and nursing care services, according to the white paper. By occupation, there have been shortages of workers engaging in jobs involving interpersonal communication, including service workers and sales workers, and professional and engineering workers.

### (3) Trends in job-hopping

#### Growing tendency of job-hopping to larger companies

The white paper also observes the relationship of labor shortage with labor shifts and wages. In recent years, the percentage of workers who moved from a company with 100–999 employees to a company

with a similar size or with a larger workforce of 1,000 or more employees has been rising as a trend compared with the 2000s. While the percentage of those who moved from a company with 5–99 employees to a company with a similar size has consistently remained high, it has been on a downtrend in the long term. In addition, the percentage of those who move to a company with 1,000 or more employees has been on an uptrend. On the whole, there is a growing tendency to move to a company with a similar or larger workforce size. On this trend, the white paper indicates a trend that there is an ongoing labor shift to large companies that provide relatively good working conditions including higher wages, and more generous employee benefits.

#### Job-hopping across industries and occupations still inactive

By industry, job-hopping across industries has not become active except in the “manufacturing” and “medical, healthcare and welfare” industry. By occupation, job-hopping across occupations has not become active except among “carrying, cleaning, packaging, and related workers” and “security workers.”

### **The matching efficiency declined**

The matching efficiency (ease of matching job applicants with job openings) has generally declined. Since the 2010s onward (period (c) above), as the rate of filled vacancy has continued to fall, many job openings failed to lead to hirings. The white paper describes that situation based on data on job applications, openings, and hiring, and points out that a decline in the matching efficiency has also been observed at fee-charging job placement service agency.

### **(4) High level of sensitivity of the wage increase rate to the rate of vacancy in Japan**

The white paper compares Japan with Germany, the United Kingdom, and the United States in terms of the correlation between labor shortage and the wage level. It finds that compared with the United States, the other three countries show sensitivity of the wage increase rate at a higher level to the rate of vacancy, and a lower level to the productivity growth. Japan shows a strong correlation the rate of vacancy and a weak correlation between the productivity growth rate and the wage increase rate. In light of those results, the white paper points out that it is presumed that in Japan, “a high wage increase rate may be realized in accordance with a rise in the rate of vacancy because of the high level of sensitivity of the wage increase rate to the rate of vacancy.”

## **II. Companies’ response to labor shortage**

### **1. Realizing a society for everyone to play active roles**

#### **(1) 4.6 million jobless workers wishing to work but not seeking a job**

Based on the examination and analysis of the current situation, the white paper examines the potential labor capacity in Japan as the first step toward finding solutions to the labor shortage. According to *Employment Status Survey* by the Statistics Bureau of the MIC, there were approximately 4.6 million jobless workers who are wishing to work but not seeking a job, of whom

nearly two million were women. As for the reasons for not seeking a job, many respondents—around 600,000 men and 700,000 women—cited “Illness, injury or advanced age,” particularly among elderly people. “Birth-giving, childcare, or nursing care for old or ill relatives” were cited by around 600,000 respondents among women aged 59 or younger. In comparison, each of “Looked for but failed to find a job,” “Unlikely to find a desirable job,” and “Not confident of own knowledge or skills” were cited by tens of thousands. In light of the findings, the white paper observes that it is important to help people willing to work by providing careful consulting support regarding matching through the employment service offices and by supporting reskilling through public vocational training programs.

Regarding the support for engagement in a side or concurrent job, the white paper notes as follows: “In addition to continuing to steadily promote working style reform and the reconciling of work with family life, it is necessary to make efforts to develop an environment that enables people to take on an additional job, when they desire, and that leads a vigorous working life within reasonable limits physically and mentally, including by supporting engagement in a side or concurrent job.” Among people who are working either as a regular or non-regular worker, the number of those who are willing to accept longer working hours is around 3 million. The number of those who are willing to do an additional job while continuing the current one is 5 million. On the other hand, 7.5 million expressed a desire to reduce working hours in the survey. With respect to non-regular workers willing to accept longer working hours, the white paper indicates that enabling them to work without becoming conscious of the annual income barrier (in which those with spouses usually adjust annual income to stay below tax and social insurance premium line) is effective to some degree in mitigating the labor shortage.

#### **(2) The employment rate for women on the rise while the part-time worker ratio also rising**

While analyzing the current situation of women, elderly people and foreign nationals, whose presence



in the labor market has shown pronounced growth, the white paper describes the challenges that stand in the way of labor participation by people with diverse backgrounds. Regarding the situation of women's, the employment rate for women in Japan is on an uptrend, while the part-time worker ratio among women (aged between 25 and 54) has also been rising and is at a higher level compared with the ratios in other developed countries. The regular worker ratio for women is rising, particularly among young women, as is the ratio of women who use parental leave to continue working after giving birth. However, women who found a job once again after losing a job or staying out of the labor market have been employed mainly as non-regular workers.

Under the Japanese employment practices, where seniority wages are observed, continuing to work for the same company tends to result in higher wages (especially in large companies) than changing the employer or having a career break. The white paper shows, among the female college graduates, the wage gap appears in the age groups of 40 or older and becomes the largest around the age group of 55 to 59 when comparing the "haenuki" (those who have been working for the same company since they graduated) and those who have changed the employer.

In light of those statistical data, the white paper argues that it is necessary to develop a working environment in which women can, if willing, continue working as a regular worker by enhancing parental leave and other measures to support them continuously. It is also necessary to develop an environment in which women can return to the labor market as a regular worker and to improve matching support at Hello Work in order to prevent from a career interruption, narrowing the options in their working lives, according to the white paper. The white paper also points out that it is required to improve the transparency of the labor market in order to strengthen the matching function, and to support through a career advancement subsidy and other measures in order to encourage people working under a fixed-term contract to switch to regular employment.

### **(3) "Employment rate cliff" shifting from age 60 toward 65**

The employment rate for the elderly in Japan is high by international standards. Among the OECD member countries, Japan has the third highest rate, after South Korea and Iceland. Since 2013, as measures to facilitate the employment of the elderly were progressed, the employment rate rose steeply particularly in the age groups of 60 to 64 and 65 to 69. This means that the "employment rate cliff," that is, the age threshold line where the employment rate starts to fall precipitously, is shifting from 60 toward 65. As for type of employment, the non-regular worker ratio tends to be higher especially among men aged 60 or older than among younger people. Pointing out pronounced individual-to-individual differences in physical strength and functions among the elderly, the white paper notes that it is necessary to make active efforts to develop a workplace environment in which everyone can work comfortably by introducing facilities and equipment suited to the actual circumstances of the elderly, such as the traits of advanced age and the specifics of jobs assigned to elderly workers and by modifying work processes.

### **(4) Ensuring appropriate treatment of foreign workers**

There is a growing number of foreign workers, mainly among those from Vietnam, who are working with a status of residence, the "Specified Skilled Workers," (under the SSW System, *Tokutei-Gino Seido*), which is granted exclusively to those possessing a certain level of specialism and skills in the specified industrial fields (currently 16 fields) such as nursing care, construction, accommodation, and food service. Because of the stagnant wage increase in Japan, the wage gaps between Japan and labor source countries have been narrowing as a trend. According to the results of analysis of job openings offered through Hello Work, the greatest factor for attracting foreign job applicants is the wage level. Add to that, granting more than 120 non-working days per year may also help to attract more applicants. The white paper points out that Japan needs to become a country where foreign workers

can receive comprehensive treatment including the presence of a system to facilitate career advancement in addition to the fair protection of human rights and workers' rights, and where foreign workers work with fulfillment.

## **2. Labor shortage in the nursing care services and companies' initiatives**

In recent years, the need for nursing care services has been growing significantly due to the aging of society. As of November 2023, the number of people recognized as requiring public nursing care services (including those recognized as requiring public support services) was 7,075,000,<sup>1</sup> and the number is projected to be 8.72 million in FY2040,<sup>2</sup> when the number of those aged 65 or older is expected to roughly peak. To accommodate this situation, around 2.8 million nursing care workers are required. The number of additional nursing care workers that would have been necessary to make up for the shortage in FY2019 is around 690,000 workers. In short, securing a sufficient number of nursing care workers has become a critical challenge.<sup>3</sup> At the moment around 70% of nursing care facilities already perceive a chronic shortage of nursing care workers (Care Work Foundation, 2022). The labor shortage in the nursing care services is serious.

Among the industries facing a serious labor shortage, the white paper focuses on the nursing care services. Based on the "Fact-Finding Survey on Long-term Care Work" (2015-2022),<sup>4</sup> annually conducted by Care Work Foundation (*Kaigo Rodo Antei Senta*), the perception of a labor shortage in the nursing care services is strong at nursing care facilities in urban areas and at large facilities. The white paper points out that, as the hiring rate has been trending downward, lowering the turnover rate is important as a response to the labor shortage.

As effective initiatives for mitigating the labor shortage, the white paper notes that ensuring that the wage level at nursing care facilities is higher than the average, developing consulting support services, paying bonuses on a regular basis as well as introducing ICT equipment. The white paper describes a case of a nursing care service

establishment (see the column "A Case Study"). In that case, the company revised the working conditions, for example through the introduction of the work separation system between direct work (works involving direct contact with facility users) and indirect works (works not involving direct contact), and an exclusive night shift system, in order to develop a comfortable working environment. At the same time, the company succeeded in retaining human resources by creating a career advancement support program and helping employees resolve the problems they are facing.

Effective initiatives to the labor shortage differs depending on the level of shortage, so necessary measures differ from facility to facility. In addition to providing management support, the government also supports the introduction of equipment<sup>5</sup> and helps to secure sufficient nursing care fee revenues to raise wages.<sup>6</sup> The white paper points out that, in order to ensure sustainable social security systems whereby elderly people can receive care services with peace of mind, it is necessary to ensure the retention of nursing care workers by taking measures to support the improvement of the workplace environment in the nursing care services.

## **3. Labor shortage and effectiveness of companies' initiatives in the retail trade and services sectors**

With respect to the retail trade and services sectors, based on the Survey on Labor Shortage and Its Management (2024), conducted by the Japan Institute for Labour Policy and Training (JILPT), the white paper examines the situation of labor shortage in the retail trade and services sectors. According to the survey, more than half of the facilities that responded to the survey perceived a labor shortage regarding all of regular workers, part-time workers and casual workers, while fewer facilities considered the labor-supply balance to be appropriate. The percentage of facilities that expected a structural labor shortage (a shortage that is not resolved for the foreseeable future) in the future was around 50% among the facilities that perceived a shortage of part-time workers and casual workers but was as high as nearly 70% among the facilities that perceived a

## A Case Study

### **Separation of direct and indirect works and the exclusive night shift implemented in nursing homes**

Company A, founded in 2002, operates group homes, nursing homes, and other facilities for older people mainly in Ise City, Mie Prefecture (with 114 employees in total as of April 2024) and has implemented a unique working style reform. First, it introduced an operation system for separated direct and indirect works in 2016. Works at nursing care facilities provides not only work in direct contact with facility users such as assisting them in bathing and eating but also indirect work such as cleaning, washing, and changing bed sheets, which accounts for more of the facility's work. In Company A, a care worker used to be assigned to both direct and indirect works (as most nursing care service companies do) and could not concentrate on indirect work when asked for direct care by users. There were complaints from users' families who considered the quality of cleaning and washing to be inadequate. Since the new operation system was introduced, the time spent on face-to-face contact with users has increased. A facility staff member observed that care workers came to realize the fundamental principle of nursing care, that is, "understanding what is on users' minds." Indirect works were assigned to disabled workers as well as to those aged 65 or over from the National Silver Human Resources Center Association (a public interest incorporated association). The new operation system thus led to a better workplace environment providing opportunities for the disabled and older people as a contribution to the society. The company also improved operational efficiency with ICT equipment such as digitalization of care records using smartphones and utilization of an intercom.

Second, Company A adopted the new working arrangement; the four-day-a-week work, exclusive night shift, and 10 hours-a-day work, followed by a half-year preparatory period. In 2018, while their job offers failed to attract applicants, several workers left the company one after another. Their facility in Suzuka City was facing a chronic labor shortage as there were quite a few nursing care facilities in the neighborhood. The new arrangement divided the care workers into exclusive daytime and nighttime shift. The company adopted a variable working hours system (*henkei rodo jikansei*) with a shift change every four weeks. It was a pioneering initiative that had a significant impact on the nursing care sector. Immediately after the introduction, seven people applied for two job offers, and as a result, the company increased hiring. The existing care workers also feel a higher level of satisfaction with their private lives as they can choose day or night shifts in accordance with their own life styles. Absences due to illness have decreased nearly 80% with the increased regularity of working hours.

In addition, the company has started a counseling service by career consultants in order to address workers' reservations and anxiety initially after the introduction. In July 2014, it also established an employee training and education facility called "Welfare Academy," for the purpose of returning the benefits of care services to users by improving each worker's skills. Their in-house skills qualification system evaluates the skills level on a six-grade scale. The acquisition of a higher grade is reflected in bonus payments. Employees' motivation for acquiring qualification has increased, and the accident rate at the facilities has declined. Furthermore, the company established a mental health consulting office and a "Self-career dock" program to provide in-house career consulting to employees on a regular basis. As a result, the turnover ratio has declined. One year when the company engaged in proactive communication throughout the year with those considering quitting the job, around 70% of them remained with the company.

\*This is a summary of the column included in the White Paper.



shortage of regular workers. As for the level of labor shortage, most facilities perceived “No shortage” or “Shortage of less than 10%” with respect to regular workers, part-time workers and casual workers. Even so, more than 20% of companies perceived “Shortage of higher than 10%” regarding regular workers.

Regarding the shortage of regular workers, the white paper points out that the difference in the level of shortage across facilities tends to arise due to differences in the turnover rate, rather than in the hiring rate and that facilities where the worker retention rate is high, which means a low turnover rate, tend to avoid facing a labor shortage because they do not need to recruit new workers to fill vacancies. The white paper also notes that, in order to ease the labor shortage, it is first and foremost necessary to retain workers by steadily raising wages, reducing overtime work, and developing a workplace environment favorable for taking paid leave, and by improving training programs and the working conditions even while making efforts to secure sufficient manpower through the diversification of hiring channels.

1. MHLW, “Outline of the Report on the Nursing Care Insurance Program” (November 2023 Provisional Version).
2. MHLW, “Regarding Type 1 Nursing Care Insurance Premiums and Estimated Service Volume, etc. during the Period of the Eighth Nursing Care Insurance Business Plan” (May 14, 2021).
3. MHLW, “Necessary Number of Nursing Care Workers Based on the Eighth Nursing Care Insurance Business Plan” (July 9, 2021).
4. “The Fact-Finding Survey on Long-term Care Work” is comprised of two parts: “Survey on Care Work at Care Service Facilities” and “Survey on the Situation of Nursing Care Workers’ Work and Attitude toward Work.” This section used

the first part for the analysis. In the Survey on Care Work at Care Facilities, around 18,000 facilities are randomly selected as samples from among the nursing care service facilities across Japan, and each year, around 8,000 to 9,000 facilities respond to the survey. This survey asks each facility to provide information on attributes, wages, the number of years worked and other items regarding up to 32 nursing care workers, and as a result, data concerning those items are tabulated with respect to around 70,000 to 80,000 workers each year.

5. The specifics of the support for the introduction of equipment are as follows. Through the Funds for Securing Comprehensive Medical and Long-term Care in local communities by the MHLW, subsidies are provided for the development of telecommunications environment in accordance with the introduction of nursing care robots used for assisting users in activities such as moving around at home, going out, excretion, and bathing and for keeping watch over users, back-office software programs useful for efficiency improvement (attendance management and shift management software), and sensors to keep track of movements of users. As a result of the revision of nursing care fees in FY2024, some flexibility has been introduced into the personnel assignment standards for specified facilities that are advanced in introducing robots and other nursing care-related equipment.
6. As a result of the revision of nursing care fees in FY2024, the extra rate for additional fees related to the improvement of worker treatment will be raised so that base salary increases of 2.5% in FY2024 and 2.0% in FY2025 can be realized in FY2025.

## Reference

- Care Work Foundation. “Kaigo rodo jittai chosa” [Fact-finding survey on long-term care work] (2015-2022). For the press release on the latest survey results, see [https://www.kaigo-center.or.jp/content/files/report/2023r01\\_chousa\\_gaiyou\\_0821.pdf](https://www.kaigo-center.or.jp/content/files/report/2023r01_chousa_gaiyou_0821.pdf).
- JILPT (Japan Institute for Labour Policy and Training). 2024. *Hitode busoku to sono taio ni kakawaru chosa* [Survey on labor shortage and its management]. JILPT Survey Series no.248. Tokyo: JILPT. <https://www.jil.go.jp/press/documents/20240829.pdf>.