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## HOW DO WE SOLVE EARLY TURNOVER IN CARE WORK?: EVIDENCE FROM JAPAN

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### Abstract

This paper clarifies the determinants of early turnover rate in care workers and verifies the effect of *The subsidy for improvement of the benefits of the care staff* (SIBCS) which was introduced in October 2009. Since the elderly has been ever-increasing while care workers is a chronic shortage, the biggest problem over the care workers is a shortage of human resources due to high early turnover rate. Given the rise of future care labor demand, it is a pressing issue to elucidate the determinants of early turnover rate and to clarify whether the past policy intervention had the effects on early turnover rate. By analyzing a large-scale survey of care workers in Japan, we found the following three points. First, the determinants of early turnover rate are different between the regular and non-regular workers. Second, the determinants of early turnover rate and turnover rate are different both for regular and non-regular workers. Third, the effect of SIBCS on early turnover rate is limited.

Key words: care work, care workers shortage, early turnover, SIBCS

### 1. Early Turnover in Care Work

The founding of mandatory public long-term care insurance (LTCI) heightened demand for and attention towards care-related work. *Care* is a term for activities in fields that cannot be systemized in modern society, which has been visualized as “care work” by feminists and others (Morikawa 2015: 27). In other words, *care*, which has been recognized as a domestic help or obligation, became wildly known as “labor” or “services” by LTCI which professes to carry out the “socialization of care.” On the other hand, difficulties facing care work were brought to light, and issues such as “early turnover” and “burnout” were exposed.

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Since the establishment of LTCI, the number of elderly individuals in need of care has been ever-increasing at the same time as the chronic shortage of care workers; this shortage of human resources is considered to be the biggest problem with respect to current care work (The Japan Institute for Labour Policy and Training 2014). Taking a close look at the jobs-to-applicants ratio in the care profession, which indicates the balance of supply and demand in the care work market, the ratio was 2.31 in 2008 (the ratio for all professions was 0.88), 1.74 in 2012 (all professions was 0.80), and 2.91 in June of 2016 (all professions was 1.14). As these numbers show, the jobs-to-applicants ratio of the care field is fluctuating at a twice or greater ratio than that of all professions (Ministry of Health, Labour and Welfare “Statistics on job/employment placement services”). Among individuals with nursing care work licenses, who are expected to comprise the core of the care profession, the ratio of those who attend up working as caregivers has remained on the same level for the last 10 years at around 55%, which shows that only half of license holders are engaging in the nursing care field. (Ministry of Health, Labour and Welfare, 2014). Under these circumstances, including the backdrop of a rapidly aging society in the future, the demand for human resources in the field of nursing care that will become the bearer of care services will increase, with an estimated approximately 2.37 to 2.49 million people needed for care services in 2025; a much higher number than the 1.49 million in 2012 with an estimate of a shortage of 300 to 400 thousand human resources (Ministry of Health, Labour and Welfare, 2013, 2014). As the Japan Institute for Labour Policy and Training (2014) pointed out, based on the estimation that a certain number of resources will be demanded, there are two major measures to secure them. Namely, the first measure is to increase the number of caregivers engaging in the care profession, and the second is to prevent the flow of human resources in the field of care profession due to turnover and transitions to other fields.

The measure that the government had taken so far to tackle the issue of care worker shortage was primarily measure 2 described above<sup>1)</sup>. Since around 2005, the shortage of care workers, and the high turnover rates and high early turnover rates have been serious problems (Owa 2014: 65). The revision of the long-term care fee in 2009 was the first positive revision since the establishment of LTCI in 2000. Furthermore, in October of 2009, the subsidy for improvement of the benefits of the care staff (SIBCS) was introduced with a 2 and a half year limitation, and in the fiscal year of 2012’s revision for long-term care fee, SIBCS was established as a measure to convert to long-term care fee, which led to the establishment of the “improvement additions for care staff treatment.” Though these improvements to worker treatment were intended to increase the average wage, whether or not they lowered turnover rates has yet to be reviewed.

While the shortage in care workers has been institutionalally and cumulatively addressed in

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<sup>1)</sup> In recent years, with regard to the 1<sup>st</sup> measure, active discussion is being conducted with respect to receiving overseas workers. The Ministry of Health, Labour and Welfare established the “Review meeting for the outline of overseas care workers acceptance (*Gaikokujin-Kaigojinzai-Ukeire no Arikatanikansuru Kentokai*)” in October of 2014, and its reports were compiled in October of 2016.

the abovementioned ways, studies on the cause of high turnover rates and high early turnover rates have not been cumulatively undertaken so far. Among the few previous studies that discuss turnover rates in care labor settings, those that deal with the effects of wage dominate, and many turnover factors besides different wages at each workplace have not yet been revealed. As will be discussed later, improvements to the wage for care workers is still a policy that must be addressed, but under this tight financial condition with respect to LTCI, an effective measure for lowering turnover rates by considering a factor other than wages is being demanded. At the same time, from a sociological perspective, some types of demonstrative contribution regarding factors besides wages are being expected. Of all the turnover issues with respect to care work, one that has especially become a social issue is early turnover rates (The Japan Institute for Labour Policy and Training, 2014). According to the “Fact-Finding Survey on Long-term Care Work 2012” approximately 50% of all turnovers in the care-related field are turnovers that occur within a year or shorter, which is extremely high compared to other industries. Getting over the “first-year hurdle” and resolving early turnovers is an urgent issue that needs to be tackled. Some care workplaces employ people with no qualifications or experience, and put them in workplaces without providing sufficient educational training as if they were disposable workers. As a result, they generate early turnovers and frequent replacements of care workers (Owa 2014: 22). Additionally, since the center of care work labor is an interpersonal service, frequently replaced care workers due to early turnovers could potentially become a factor that hinders the building of trust-based relationships between care workers and individuals who require care.

By being aware of the issues raised above, this paper will conduct analyses on early turnover rates in the field of care work through a large scale survey targeting LTCI service offices around Japan.

## **2. What factors influence turnover?**

Due to the fact that personal job mobility can be obtained through sources such as “The national survey of Social Stratification and social Mobility survey (SSM survey),” in sociological studies on turnovers, whether or not an individual has ever left one’s job before have been handled as outcomes (Kanbayashi and Takenoshita 2014). However, with respect to studies dealing with turnover of care workers, all of them consider turnover rates to be outcomes. This is a result of surveys for workplaces asking about the number of newly-hired employees and voluntary displaced workers, which makes it possible to calculate turnover rates while the sole large-scale survey targeting care workers fails to ask about job mobility. For this reason, the previous studies described below deal with turnover rates at workplaces as outcomes<sup>2)</sup>. Study on turnover in care work settings can be broadly categorized into two factors depending on its points

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<sup>2)</sup> Whether researchers use turnover rates or the individuals’ history of leaving jobs as their outcomes depends on the purpose of their analysis. Since the objective of this paper is to elucidate what effect workplace attributes and policy responses have on turnovers, we have an active justification for setting the turnover rates as the outcome.

of focus, such as wages and factors other than wages, which we will briefly take a look at one by one. Additionally, the only previous study with the same theme as this paper's analysis is one conducted by Chie Hanaoka (2010), so we will conduct analysis on previous studies including those with the theme of turnover rates.

### *2.1. Previous studies*

Among studies focusing on wages, two conflicting results exist: one was that the amount of payment for wages lowered turnover rates as well as early turnover rates (Shimono 2009; Hanaoka 2009; Yamada and Ishii 2009; Hanaoka 2010), and the other was that the amount of payment for wages had no effect on lowering turnover rates (Owa 2014). Factors that have been raised which contribute to these conflicting results are 1) difference in the data handled, 2) difference in analytical methods, and 3) difference in analysis targets. However, there is no statement on these differences in previous studies<sup>3)</sup>. A representative mechanism that correlates wages and turnover rates is wage elasticity. Namely, when the wage elasticity of care workers is high (low), increasing wages will be an effective (ineffective) policy to increase labor supply. The importance of estimating wage elasticity is that it allows for a bird's-eye view with respect to what extents there is flow from the non-nursing care industry to the nursing-care industry, and to what extent people leave their jobs or transfer from the nursing-care industry to other industries. In order to calculate the wage elasticity of care workers, it is necessary to examine the impact of wage on the decision to work in care work as well as the impact on the selection of work hours for existing care workers (Hanaoka 2015). With respect to analysis on the former impact, previous studies could not be found partially due to data restriction. With respect to the latter impact, Wataru Suzuki (2010) conducted estimations of the wage elasticity of part-time care workers using the "2006 Fact-Finding Survey on Long-term Care Work." As a result, it was elucidated that though it varied between job types, wage elasticity was -0.3 to -0.8, which means that the higher the wage, the shorter the work hours became. Meanwhile, Kensaku Kishida & Shizuko Tanigaki (2011) reported that wage elasticity was negative. Suzuki (2010) estimated that "the 'barrier of 1.03 million yen and 1.30 million yen' created by tax systems and social insurance systems is the primary cause of impediments with respect to establishing a labor force of short-term care workers." Consequently, there might be a possibility that there are different correlation mechanisms for wages and turnover rates depending on regular/non-regular work types.

On the other hand, given wage elasticity, it is possible to analyze job transfers from the nursing-care industry to other industries, as well as job-quitting from the nursing-care industry. As a result of analyzing transfer behavior of care workers from the nursing-care industry to other

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<sup>3)</sup> The estimation model by Mie Owa (2014), which resulted in the conclusion that there is no correlation between wages and turnover rates, did not factor in the number of employees as well as brackets for care payment which were included in other previous research analyses, and it limited analysis targets to welfare nursing homes for the elderly; all of which are one of the possible reasons for the different results.

industries, with respect to job transfers, Suzuki (2011) elucidated that the higher (lower) the care worker's wage, the more the probability of transfer to other industries decreases (increases). After analyzing the impact of care workers' wages on their desire to continue their jobs, Shoki Okubo (2016) indicated that wages brought about a significant positive effect, and that the effect of wages mediated job satisfaction. Atsuhiko Yamada & Kayoko Ishii (2009) pointed out as a result of analysis using "Employment status survey" that increasing wages is greatly effective with respect to departure from jobs for males. The previous studies described above provided us with knowledge that higher wages prevent workers from quitting their jobs.

With respect to factors besides wages, educational/training status (Owa 2014), regional characteristics (Hanaoka 2010), and corporate status, etc. (Hanaoka 2009) have been examined. Owa (2014) reported the result that providing fulfilling education and training in workplaces lowers turnover rates. Hanaoka (2010) revealed that the bigger the city, the higher the early turnover rates become. Furthermore, Hanaoka (2009) clarified that turnover rates in private companies is higher than in a social welfare corporation, a NPO, etc. However, with regard to all of these studies, there has been insufficient examination on the reason why the analysis results above can be obtained from factors besides wages, it is necessary to reinterpret these results including knowledge from previous studies.

The previous studies above on turnover rates and early turnover rates were conducted using data from 2006 to 2008, when the shortage of care workers started being pointed out. Thus, this study takes the stance of Hanaoka's (2015) observations with respect to the accumulated knowledge that reexamination on determinants for turnover rates is necessary, using data after FY2009 in which improvement of the benefits of care workers started being carried out.

With respect to SIBCS, which was introduced as a limited-time measure for 2 and half a years starting in October of 2009, there has no previous study that had examined what effect this had on turnover rates and early turnover rates. The only exception was The Japan Association of Certified Care Workers (2011), who had conducted descriptive collections on the SIBCS. They reported that the monthly average of benefit improvements by subsidy was 6,972 yen, which was lower than the policy goal of 15,000 yen for the reflected amount by the subsidy. Though the average salary increase, however, can be confirmed from descriptive statistic values like the above, whether or not the increase made an impact on the decreasing early turnover rates is unknown.

## *2.2. Tasks and contributions*

Taking after the above previous studies, this study will analyze the 2 tasks below using data after FY2009. First, we will identify which factor explains different early turnover rates at each care workplace. Meanwhile, we will pay attention to workplace attributes besides wages, such as the state of education/training implementation, corporate status, area classification, and the size of the business. After that, analysis on non-regular workers, who have seldom been targets

of analyses, will be conducted. This is because the percentage of non-regular workers in the care work environment is higher, and it will become a future issue to figure out how to prevent early departures of non-regular workers from their jobs (including promotion to regular employees, or promotion of work-life balance). The reason why we pay attention to early turnovers is because the core issue of turnover in the care work market is entirely the early turnover problem, as described earlier. Half of the population in the care work market quit their jobs less than one year. Secondly, we will verify whether or not it is true that, SIBCS, which was established in December of 2009 by the government as a two and a half year limited-time measure as a response to high early turnover rates in care work, was actually effective in lessening early turnover rates. The goal for the SIBCS was to improve benefits received by care workers, to put the brakes on rising early turnover rates. However, whether or not there were actual effects on lowering early turnover rates has not yet been verified, and moreover, drawing a institutional conclusion to verify these effects after a few years of implementation has been an issue (Owa 2014; Hanaoka 2015). With respect to the improvement of care worker benefits, since various countermeasures are currently being reviewed, sharing knowledge regarding how much of an impact was made by the previously carried out policies is significant.

The contributions that this paper's analysis will make for these issues are: 1) to focus on early turnover rates, which hasn't been reviewed at all thus far, 2) to reexamine early turnover rates of care work using data post-2009, in which improvements to benefits was implemented, 3) to identify early turnover rates on regular and non-regular workers respectively, and 4) to elucidate the institutional conclusion of SIBCS which was established for the clear institutional goal of lowering (early) turnover rates.

### **3. Analytical Strategies**

#### *3.1. Data*

The source of the data used in this paper is the "Fact-Finding Survey on Long-term Care Work 2010" (Care Work Foundation). Of all the workplaces that provide LTCI designated care services posted in the "List of LTCI businesses" on WAM NET of the Welfare and Medical Service Agency, a fourth of them (17,030 workplaces) were randomly picked as samples. The survey period was October 1<sup>st</sup> to 30<sup>th</sup> of 2010, and the number of valid response was 7,345 workplaces (response rate: 43.1%). There is data available that is newer than those in the "Fact-Finding Survey on Long-term Care Work," but this paper uses the data "2010 I Fact-Finding Survey on Long-term Care Work" for analysis, because it is the most abundant in questions regarding measures towards improvement of benefits. In order to analyze turnover of only those who directly engaged in care labor, the targets for this analysis were restricted to care staffers in facilities, and excluded individuals in charge of services as well as daily consultants. Workers' characteristics in workplaces were devised by combining 2 kinds of datasets from the "2010

Fact-Finding Survey on Long-term Care Work 2010” The first set of data was related to the care workplace attributes as described above. From this dataset, information on the number of voluntary displaced workers by the type of work and type of employment, corporate status, area (long-term care fee) classification, educational/training status, etc. can be obtained per care workplaces. The second dataset is regarding care workers belonging to care workplaces. Each care workplace was asked about their workers’ wage, work hours, type of employment, etc. of up to 20 care workers. With respect to the selected care workers, the number of workers by type of employment per the primary care service type of the care workplaces for such workers is set forth on the sampling survey design.

### 3.2. *Outcome variable*

The outcome variable of this analysis is early turnover rates. This paper will use the percentage of early voluntary displaced workers compared with those who have merely quit their job, as done in the sole previous study by Hanaoka (2010). Here, early turnover refers to voluntary displaced workers whose length of employment is less than one year (The Japan Institute for Labour Policy and Training 2014).

### 3.3. *Predictor variables*

Predictor variables are the average actual wages, average age, percentage of females, regional characteristics, care educational/training status, corporate status, number of employees, and the purpose of SIBCS. With respect to the average actual wages, average age, and percentage of females, averages were taken in each workplace and calculated by combining the previous 2 datasets. As for the regional characteristics, long-term care fee was applied. The long-term care fee is a classification which reflects regionally different commodity prices and labor costs, and markups for long-term care fee have become bigger in the order of the classifications of “special district,” “special area A,” “area A,” “area B,” and “other” as of 2010<sup>4)</sup>. This classification is used as an indication of how large the city is. For care educational/training status, the care educational/training status at time of employment and after employment was used. Workers were asked if they applied to any of the following when starting employment: “nursing care skills/knowledge,” “welcoming/manners,” “company/workplace’s philosophy and care policies,” “prevention measures for infectious diseases,” “procedure for problem shooting and processing complaints,” “prevention measures for workers’ lower back pain,” “safety measures,” and “building relationship among staff.” After employment, workers were asked if they applied to any of the following: “nursing care skills/knowledge,” “LTCI and related laws,” “safety measures,” “welcoming/manners,” “information sharing, methods of recording and reporting,”

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<sup>4)</sup> The current long-term care fee classification is structured in 8 classifications of “1<sup>st</sup> class area through 7<sup>th</sup> class area” and “other.”



“compliance/privacy protection,” “case reviews,” and “training for qualification.” From a simple summation of the responses to each item, Cronbach’s alpha was obtained at 0.78 (at the time of employment as a regular worker), 0.72 (after employment as a regular worker), 0.79 (when employed as a non-regular worker), and 0.78 (after employment as a non-regular worker). Using these alphas, “training score” variables at the time of and after employment were created after confirming the internal validity of a composite scale. Corporate status is comprised of 4 categories: “private,” “social welfare corporation,” “medical corporation,” and “other (NPO/cooperative associations/local government, etc.)” The number of employees is comprised of the 2 categories of “99 or less” and “100 or more.” SIBCS is asked regarding the purpose of the subsidy from each workplace. More specifically, these purposes are: “increasing base wages,” “introduction of/raising various allowances,” “provision of one-off payment,” “mitigation of work load by increasing staff,” “normalizing work hours/days,” “clarification of promotion requirement,” “promoting non-regular worker to regular worker,” “fulfilling education training,” “fulfilling communication regarding work,” “implementing individual counseling on work and work conditions,” “fulfilling health management,” “fulfilling support for childbearing/rearing,” “fulfilling nursing care support,” and “enhancing handling structures for accidents and issues.” The descriptive statistics value used for analysis is as shown in Table 1.

### *3.4. Statistical inference*

Because the data was group average data, this analysis used the number of people engaging in care work belonging to the type of employment at each care workplace as weight, and estimated parameters using Weighted Least Squares (WLS). White’s robust standard error was used to deal with heteroscedasticity<sup>5)</sup>.

## **4. Estimation Results**

### *4.1. Determinant of early turnover rates which vary in workplaces*

The estimation results using WLS of early turnover rates in terms of regular/non-regular are shown in Tables 2 and 3. The average actual wages had a significantly negative effect on regular workers, while there were no significant effects for non-regular workers. In other words, exclusively for regular workers, a correlation between workplaces with higher average wages

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<sup>5)</sup> In the average data of groups, in cases where the numbers of individuals in groups are largely different from each other, heteroscedasticity is known to be larger. If this is the case, since weighting the heteroscedasticity by the number of people in the group leads to an unbiased estimator (Solon et al. 2015), this paper adopts a WLS which uses the number of care workers. Additionally, robust standard error is used semi-automatically in the regression analysis, but it has been revealed in recent research that using robust standard error often generates biases when there is a huge disparity between standard error and robust standard error (King and Roberts 2015). Thus, this paper calculated both normal standard error and robust standard error, and confirmed that there was no huge disparity between them.

TABLE 1. Summary statistics (weight adjusted)

| Variables  | Regular |       | Non-regular |       |
|--|---------|-------|-------------|-------|
|  | Mean    | SD    | Mean        | SD    |
| <i>—Outcome variable—</i>                                      |         |       |             |       |
| Early turnover rates (less than one year)                      | 0.308   | 0.309 | 0.534       | 0.351 |
| <i>—Predictor variables—</i>                                   |         |       |             |       |
| Average actual wages (log)                                     | 12.403  | 0.166 | 12.415      | 0.171 |
| Percentage of females  | 0.755   | 0.139 | 0.756       | 0.133 |
| Average age  | 39.584  | 4.619 | 39.727      | 4.499 |
| Training score at the time of employment                       | 4.903   | 2.206 | 4.567       | 2.385 |
| Training score after employment                                | 5.118   | 2.096 | 5.118       | 2.096 |
| <u>Number of employees</u>                                     |         |       |             |       |
| 99 or less   | 0.310   | 0.463 | 0.265       | 0.442 |
| 100 or more  | 0.690   | 0.463 | 0.735       | 0.442 |
| <u>Corporate status</u>  |         |       |             |       |
| Private  | 0.176   | 0.381 | 0.218       | 0.413 |
| Social welfare corporation                                     | 0.527   | 0.500 | 0.628       | 0.484 |
| Medical corporation  | 0.264   | 0.441 | 0.130       | 0.337 |
| Others (NPO/cooperative associations/local government, etc.)   | 0.033   | 0.178 | 0.025       | 0.155 |
| <u>Area classification</u>                                     |         |       |             |       |
| Special district, Special area A, Area A, Area B               | 0.354   | 0.479 | 0.400       | 0.491 |
| Other  | 0.646   | 0.479 | 0.600       | 0.491 |
| <u>Purpose of SIBCS</u>  |         |       |             |       |
| Increasing base wages  | 0.207   | 0.405 | 0.205       | 0.404 |
| Introduction of/raising various allowances                     | 0.427   | 0.495 | 0.467       | 0.500 |
| Provision of one-off payment                                   | 0.659   | 0.474 | 0.687       | 0.464 |
| Mitigation of work load by increasing staff                    | 0.119   | 0.324 | 0.125       | 0.331 |
| Normalizing work hours/days                                    | 0.032   | 0.175 | 0.024       | 0.154 |
| Clarification of promotion requirement                         | 0.208   | 0.406 | 0.216       | 0.412 |
| Promoting non-regular worker to regular worker                 | 0.149   | 0.356 | 0.167       | 0.374 |
| Fulfilling education training                                  | 0.242   | 0.429 | 0.284       | 0.451 |
| Fulfilling communication regarding work                        | 0.049   | 0.216 | 0.071       | 0.257 |
| Implementing individual counseling on work and work conditions | 0.063   | 0.243 | 0.061       | 0.239 |
| Fulfilling health management                                   | 0.087   | 0.282 | 0.089       | 0.285 |
| Fulfilling support for childbearing/rearing                    | 0.081   | 0.273 | 0.065       | 0.246 |
| Fulfilling nursing care support                                | 0.020   | 0.141 | 0.020       | 0.139 |
| Enhancing handling structures for accidents and issues         | 0.018   | 0.134 | 0.022       | 0.146 |
| <i>n</i>   | 686     |       | 398         |       |

and lower early turnover rates was confirmed. This correlation was pointed out in an analysis which used data before 2009, prior to improvements of care staff benefits being implemented (Hanaoka 2010), but a similar correlation was clarified by an analysis using data from after

TABLE 2. Turnover rate determinants of regular care worker (WLS estimates)

| Variables  | Coefficient | (Standard error) |
|--|-------------|------------------|
| Average actual wages (logarithm)                               | -0.185 †    | (0.100)          |
| Percentage of females  | 0.048       | (0.107)          |
| Average age  | 0.000       | (0.003)          |
| Training score at the time of employment                       | 0.001       | (0.008)          |
| Training score after employment                                | -0.001      | (0.008)          |
| <u>Number of employees (ref. 99 or less)</u>                   |             |                  |
| 100 or more  | -0.053 †    | (0.032)          |
| <u>Corporate status (ref. private)</u>                         |             |                  |
| Social welfare corporation                                     | -0.102 **   | (0.038)          |
| Medical corporation  | -0.007      | (0.041)          |
| Others (NPO/cooperative associations/local government, etc.)   | -0.121      | (0.075)          |
| <u>Area classification (ref. other)</u>                        |             |                  |
| Special district, Special area A, Area A, Area B               | 0.100 **    | (0.033)          |
| <u>Purpose of SIBCS</u>  |             |                  |
| Increasing base wages  | -0.044      | (0.034)          |
| Introduction of/raising various allowances                     | -0.003      | (0.032)          |
| Provision of one-off payment                                   | -0.030      | (0.033)          |
| Mitigation of work load by increasing staff                    | 0.091 †     | (0.049)          |
| Normalizing work hours/days                                    | -0.071      | (0.075)          |
| Clarification of promotion requirement                         | 0.019       | (0.040)          |
| Promoting non-regular worker to regular worker                 | -0.005      | (0.046)          |
| Fulfilling education training                                  | -0.008      | (0.039)          |
| Fulfilling communication regarding work                        | 0.083       | (0.076)          |
| Implementing individual counseling on work and work conditions | -0.046      | (0.042)          |
| Fulfilling health management                                   | -0.004      | (0.053)          |
| Fulfilling support for childbearing/rearing                    | 0.020       | (0.054)          |
| Fulfilling nursing care support                                | -0.166 †    | (0.093)          |
| Enhancing handling structures for accidents and issues         | 0.002       | (0.103)          |
| Intercept  | 2.636 *     | (1.233)          |
| <i>n</i>   |             | 686              |
| <i>R</i> <sup>2</sup>  |             | 0.084            |

Notes: † $p < .1$ , \* $p < .05$ , \*\* $p < .01$

2009<sup>6)</sup>. Despite the negative correlation between wages and turnover rates as described above having been pointed out (Yamada & Ishii 2009), this analysis elucidated that raising wages impacts early turnover rates negatively as well. In other words, raising wages implies a mean to

<sup>6)</sup> Hanaoka (2010), who used the “2007 Fact-Finding Survey on Long-term Care Work,” used relative wages, which is a comparison with other types of occupations. Based on this paper’s analysis result, a similar correlation in regular workers was recognized even when using average wage in the workplace and not relative wage. Namely, the negative correlation between wage and turnover rates exists not only in care nursing/non-care nursing markets, but also in the care work market.

TABLE 3. Turnover rate determinants of non-regular care worker (WLS estimates)

| Variables  | Coefficient | (Standard error) |
|--|-------------|------------------|
| Average of actual wages (logarithm)                            | 0.007       | (0.137)          |
| Percentage of females  | -0.133      | (0.148)          |
| Average age  | -0.007      | (0.005)          |
| Training score at the time of employment                       | -0.010      | (0.011)          |
| Training score after employment                                | 0.003       | (0.011)          |
| <u>Number of employees (ref. 99 or less)</u>                   |             |                  |
| 100 or more  | 0.022       | (0.045)          |
| <u>Corporate status (ref. private)</u>                         |             |                  |
| Social welfare corporation                                     | -0.044      | (0.069)          |
| Medical corporation  | -0.014      | (0.080)          |
| Others (NPO/cooperative associations/local government, etc.)   | -0.214 †    | (0.115)          |
| <u>Area classification (ref. other)</u>                        |             |                  |
| Special district, Special area A, Area A, Area B               | 0.068       | (0.047)          |
| <u>Purpose of SIBCS</u>  |             |                  |
| Increasing base wages  | -0.124 **   | (0.045)          |
| Introduction of/raising various allowances                     | -0.041      | (0.052)          |
| Provision of one-off payment                                   | -0.002      | (0.048)          |
| Mitigation of work load by increasing staff                    | 0.120       | (0.097)          |
| Normalizing work hours/days                                    | 0.108       | (0.097)          |
| Clarification of promotion requirement                         | 0.001       | (0.071)          |
| Promoting non-regular worker to regular worker                 | 0.008       | (0.063)          |
| Fulfilling education training                                  | -0.098 †    | (0.058)          |
| Fulfilling communication regarding work                        | 0.144 †     | (0.078)          |
| Implementing individual counseling on work and work conditions | -0.001      | (0.079)          |
| Fulfilling health management                                   | -0.052      | (0.064)          |
| Fulfilling support for childbearing/rearing                    | 0.077       | (0.078)          |
| Fulfilling nursing care support                                | 0.217       | (0.148)          |
| Enhancing handling structures for accidents and issues         | -0.091      | (0.102)          |
| Intercept  | 0.884       | (1.674)          |
| <i>n</i>   |             | 398              |
| <i>R</i> <sup>2</sup>  |             | 0.090            |

Notes: † $p < .1$ , \* $p < .05$ , \*\* $p < .01$

cope with the “first-year hurdle.” On the other hand, non-regular worker didn’t show any significant correlation between average actual wages and early turnover rates. Because non-regular worker’s wage elasticity was negative (as wages rise, work hours are shortened) (Suzuki 2010; Kishida & Tanigaki 2011), non-regular workers became conscious of the “barrier of 1.03 million yen and 1.30 million yen” and did not respond as regular workers did to wages. This result stated that wages and turnover rates may not be significantly correlated with each other. Non-regular workers, who are possibly non-primary breadwinners, may be reacting to factors other than wages, such as adjustment of work hours or ease of commute.

In the case of percentage of females and the average age, these did not have any significant impact on early turnover rates of both regular and non-regular workers. Newly acquired knowledge was that demographic variables did not explain the differences in early turnover rates among workplaces.

In terms of workplace training status, significant effects on early turnover rates of both regular and non-regular workers were not confirmed. Though it was pointed out that fulfilling workplace training status suppresses turnover rates (Owa 2014), a similar effect on early turnover rates was not observed. This means that the effect of workplace training can only be seen after a certain period of training has passed, and the effect on turnover rates less than one year cannot be confirmed. Owa (2014: 78), who had reported that lowering turnover rates is due to fulfilling workplace training, pointed out that turnover rates lower because providing fulfilling workplace training is an indication of support which looks to the employees' future and indicates treatment of these employees as non-disposable workers, and helps build a trust-based relationship between labor and management. However, looking at the results from this analysis, which paid close attention to early turnover rates, there is a possibility of overestimating the effects which arise from training; this is due to the fact that those who were selected as samples for turnover rates were limited to those whose actions of quitting would be impacted by training, and those whose actions of quitting would not be affected by training were not included in the samples<sup>7)</sup>. In the analysis on Tables 2 and 3, "training score at the time of employment" and "training score after employment" were simply added to make a calculation, but an additional analysis was made by factoring in all items as dummy variables without conducting a simple addition of training status. As a result, early turnover rates were significantly lowered by workplaces implementing "welcoming/manners (at the time of employment)" and "case reviews (after employment)" for regular workers, while the same was seen in workplaces implementing "safety measures (at the time of employment)" for non-regular workers. Therefore, though a significant effect of training status cannot be confirmed if a combined index is utilized; however, with respect to specific training status, selection of training details will become necessary for effective measures due to the fact that items with significant effects exist.

With respect to the number of employees, a significant effect was recognized only among regular workers. That turnover rates at workplaces with "100 or more" employees is lower than those with "99 or less" employees is an indication of this effect. The size of the number of employees is one of the indexes of stable management, and it is possible to point out that this stability lowers early turnover rates. Plus, the size of the number of employees as well as the

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<sup>7)</sup> Early voluntary displaced workers as referenced in this paper refers to employees whose length of employment is less than a year, but the term "voluntary displaced worker" in Owa (2014) includes employees whose length of employment is a year or more. With respect to voluntary displaced workers who worked for one year or more, since there is a reasonable number of workers who quit regardless of fulfilling training, there is a certain level of possibility that only workers who tend not to quit their jobs or are unwilling to quit remain in the care work market (selection bias).

level of fulfillment of benefits can be considered to be positively correlated. The reason why there is no significant effect among non-regular workers from this perspective can be a reflection of the fact that the target of benefits tends to be limited to regular workers.

With respect to corporate status, the result was that early turnover rates of regular workers at “social welfare corporations” were significantly lower, and that early turnover rates of non-regular workers at “other (NPO/cooperative associations/local government, etc.)” were significantly lower in comparison with “private” companies. The reason for this disparity between results was considered to be because there is individual heterogeneity (enthusiastic toward job or passion to nursing-care) between corporations, rather than the corporation’s unobserved undergoings to prevent workers from quitting. In other words, there is a possibility that any individuals who tend to have characteristics that make them less likely to quit (unobservable characteristics) are working in “social welfare corporations” and “other (NPO/cooperative associations/local government, etc.),” compared to “private” corporations<sup>8)</sup>.

With respect to area classifications, results showed high turnover rates only for regular workers in large urban areas. This correlation was found in turnover rates before the benefit improvements (Hanaoka 2009), but this analysis elucidated the same correlation with respect to early turnover rates after the improvement of the benefits. The reason for higher early turnover rates in bigger cities is thought to be because there are more opportunities due to the abundance of industries and occupations in larger cities<sup>9)</sup>.

#### 4.2. Institutional consequence of SIBCS

In this section, we will discuss which purpose was effective with respect to early turnover rates upon consideration of the fact that the purpose of SIBCS differs between workplaces. Table 2, which shows results from the analysis of regular workers, elucidated that of all the benefit improvements, the only one that was effective in suppressing early turnover rates was

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<sup>8)</sup> In order to confirm this point, a chi-square test was conducted after cross tabulation of “corporate status” and “length of employment at the current corporation” as an additional analysis using “2010 Fact-Finding Survey on Long-term Care Work: worker questionnaire.” As a result, individuals who have been working for less than one year at “private corporations” was 18.6%, 10.9% at “social welfare corporations,” and 12.7% at “Others (NPO/cooperative associations/local government, etc.),” and the difference between them was found to be significant. This result implies, though indirectly, the possibility that more individuals who have a tendency not to quit their jobs (difficult to observe) are working in “social welfare corporations” and “Others (NPO/cooperative associations/local government, etc.)” rather than “private” corporations.

<sup>9)</sup> In reality, because this interpretation does not explain why there is no significant positive correlation for non-regular workers, we have performed an analysis which focuses on subsistence roles of regular and non-regular workers using the “2010 Fact-Finding Survey on Long-term Care Work: worker questionnaire.” The results were that 42.73% of regular workers and 23.78% of non-regular workers were breadwinners. The disparity between them was significant. In general, incentives for breadwinners to transfer jobs are high because they can expect improvement in benefits, while incentives of non-regular workers who tend to enter the labor market as a supporting role in the family are not as high as regular workers’. Therefore, the possibility of a correlation that non-regular workers who have a low percentage of being breadwinners does not result in higher turnover rates of urban areas can be pointed out.

“fulfilling nursing care support.” Though the Japanese government raised “Zero turnovers in nursing-care” as one of its growth strategies in 2015 in response to the problems in the labor market such as workers quitting their jobs in order to take care of family members, this analysis reveals that turnovers in nursing-care had already existed as a problem in the care work market at 2010<sup>10</sup>). This is because the suppression of turnover rates due to “fulfilling nursing care support” implies that there are some workers who quit their jobs due to personal care issues. Even though data from this analysis did not provide specific details on “fulfilling nursing care support,” it is obvious that the issue of personal nursing care is critical for care workers when it comes to considering whether or not to continue working. In contrast, an impact on early turnover rates through wage increases for care workers such as “increasing base wages,” “introduction of/raising various allowances” and “provision of one-off payment” as the primary purposes of SIBCS could not be confirmed. However, it is necessary to note that this analysis was not able to identify the reason for this ineffectiveness with respect to whether the measure of increasing wages is ineffective or simply ineffective for early turnover rates due to the small amount of these wage increases.

On the other hand, the impact that the purposes of SIBCS has on non-regular workers’ early turnover rates differs from that on regular workers. Table 3 demonstrates that the effective measures to lower early turnover rates for non-regular workers were “increasing base wages” and “fulfilling education training.” Though SIBCS “granted 15 thousand yen per month in average for each care staffer (full-time equivalent),” “increasing base wages” was only effective for early turnover rates of non-regular workers. Because the average wages of non-regular workers are lower than those of regular workers, it is possible that the expected wage standard is relatively low; therefore, even a small amount of increase in wages may have led workers to refrain from quitting their jobs<sup>11</sup>). With respect to “fulfilling education training,” the reason why “fulfilling education training” granted by SIBCS significantly lowered only non-regular workers’ early turnover rates can be called into question because this study has confirmed earlier that disparity in training status between workplaces does not explain early turnover rates. A possible explanation can be that training at the time and after employment for non-regular workers is not as fulfilled as that of regular workers. Additionally, if non-regular workers are given the same level of “fulfilling education training” through SIBC as that of regular workers, the

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<sup>10</sup>) Despite the lowest and highest values of ages not being shown in Table 1, the average age of regular care staffers in workplaces is 39.584, with the lowest being 26.000 and the highest being 57.765. The average age of non-regular care staffers in workplaces is 39.727, with the lowest being 29.177, and the highest being 55.077. Judging by the highest values, some care workers seem to face personal nursing-care issues.

<sup>11</sup>) In the scope of non-regular work, the “average actual wages” do not have any significant effects on early turnovers. Then, why was only “increasing base wages” effective? While the high/low of average actual wages is a comparison between workplaces, “increasing base wages” as an improvement for benefits reflects changes before and after the enactment of measures in the workplace. The actual acknowledgement that wages have increased is more readily felt by the latter. Thus, it is natural to think that non-regular workers who expected wages to be relatively lower only responded to “increasing base wages” as a change between the improvement for benefits.

relative fulfillment level of non-regular workers will increase, and one could say that an impact has been made by “fulfilling education training.”

An unexpected point that is indicated from the results of Tables 2 and 3 is that the purpose of SIBCS can be seen to have a significantly possible correlation with early turnover rates. More specifically, workplaces where “mitigation of work load by increasing staff” for regular workers and “fulfilling communication regarding work” for non-regular workers were introduced as the purpose of SIBCS had increased early turnover rates. The expression “increasing staff” in the phrase “mitigation of work load by increasing staff” does not specify as to what extent regular or non-regular workers will be increased. Supposing that workplaces attempt to mitigate their entire work load by increasing non-regular workers, this will increase opportunities for regular care workers to instruct and engage in discussion with non-regular workers. As a result, this would possibly cause an increase in workloads for regular workers, and eventually boost early turnover rates. Regarding “fulfilling communication regarding work,” specific methods differ in each workplace. In the case that “communication regarding work” refers to close correspondence limited to tasks and information-sharing of users, etc. a possibility can be raised that tasks conducted by non-regular workers, who do not have the burden of managerial work in the way that regular workers do, would increase, and early turnover rates would consequently rise<sup>12)</sup>.

## 5. Conclusion

This paper, in consideration of the social issue of the “first-year hurdle” in care work, has elucidated determinants of early turnover rates and the impacts of SIBCS which was implemented after 2009 for early turnover rates. The issue of turnover for care workers is a crucial problem to be solved in Japanese society, which has entered into an unprecedented super aging society. According to the “2013 Fact-Finding Survey on Long-term Care Work,” 56.5% of 7,808 workplaces which conduct LTCI services in all of Japan replied with “deficient” with respect to the question of whether they had an excess or deficiency in workers. Moreover, the stringent status of care worker deficiency can be inferred from the 68.3% of replies that answered “difficult to employ,” and the 17.5% of replies that answered “turnover rate is high,” both of which were out of the 3,454 workplaces which replied with “deficient.” On the other hand, considering that there is currently insufficient accumulation of studies which have directly tackled the turnover problem in care work, this analysis is highly rare.

What was revealed in this paper are the following 3 points. Firstly, regular and non-regular

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<sup>12)</sup> At the same time, the possibility of selection biases can be pointed out for regular and non-regular workers. Namely, workplaces which conducted “mitigation of work load by increasing staff” and “fulfilling communication regarding work” originally had high early turnover rates due to work overload or lack of communication. This possibility refers to a possibility that such workplaces may have continued to have high early turnover rates that were not improved, even if these workplaces implemented “mitigation of work load by increasing staff” and “fulfilling communication regarding work” at the spur of the moment.



workers are different from each other with respect to determinants of early turnover rates. More specifically, while there is a significant correlation for regular workers between early turnover rates and wage/corporate status/area classification/number of employees, only corporate status showed a significant correlation for non-regular workers. Secondly, according to the comparison between this analysis and the previous studies referred to in Section 2.1, (Shimono 2009; Hanaoka 2009; Yamada & Ishii 2009; Hanaoka 2010), determinants between early turnover rates and turnover rates are different. Specifically speaking, the average actual wages of regular workers has negative effects on both early turnover rates and turnover rates, while training scores in workplaces did not show any significant effects on early turnover rates for regular and non-regular workers. Thirdly, the impact on early turnover rates of the SIBCS that was enacted in 2009 for the purpose of settling care workers at workplaces without quitting was limited. Since the representative purposes of SIBCS, which are “increasing base wages,” “introduction of/raising various allowances,” and “provision of one-off payment,” has no impact on regular workers, and because only the purpose of “fulfilling nursing care support” made an impact, preparing a working environment besides merely raising wages is also an effective measure to suppress early turnover rates.

These work environment preparations are issues that government and workplaces should tackle hand in hand. However, the fact that impact of “increasing base wages,” “introduction of/raising various allowances” and “provision of one-off payment” could not be recognized does not imply that wage increases are unnecessary. There remains a fair possibility that no impact was made in lowering turnover rates because merely raising wages may be insufficient; it is indispensable to continue improving benefits in terms of wages in order to promote the increase of future care workers, to solidify the image of care profession as a professional occupation, and to prevent worker outflow from the care work market.

Finally, we will state the limitations of this paper. Firstly, this analysis was not able to address workers’ individual behaviors, because the analysis’s outcome was set as turnover rates using workplace data. Furthermore, the early turnover that is dealt with in this analysis includes all variations, such as transferring to other occupations, transferring to other workplaces of the same industry, and withdrawing from the labor market. Because data that can identify these different categories are not available for use in Japan, it is desirable to formulate a new survey design in the future. Secondly, due to restriction of data, sufficient consideration was not paid to identify causal effects. This means that we did not address endogeneity bias that occurs from correlations between predictor variables and error term<sup>13)</sup>, so the interpretation of results should be regarded as a correlation. Even though the issues stated above remain, this paper

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<sup>13)</sup> The propensity score method, instrumental variable method, and control function method were examined as popular methods to address endogeneity (Imbens and Rubin 2015; Wooldridge 2015). However, because variables that would satisfy the assumption for identification strategy were not included in the data, addressing endogeneity was abandoned.

provides knowledge that is worthwhile to clarifying the actual status of early turnover in recent care work, which was scarcely accumulated in the past.

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