18th World IMACS / MODSIM Congress, Cairns, Australia 13-17 July 2009
http://mssanz.org.au/modsim09

An analysis of the new medical payment system in Japan

Nawata, K. [1], **M. Ii** [2], **H. Toyama** [3] **and T. Takahashi** [3]

[1] *Graduate School of Engineering, University of Tokyo, Bunkyo-kun Tokyo 113-8656, Japan*
[2] *School of International and Public Policy, Hitotsubashi University, Chiyoda-ku, Tokyo 101-8439, Japan*
[3] *Department of Health Service Management, International University of Health and Welfare, Ohtawara, Tochigi, 324-0011, Japan*

Email: nawata@tmi.t.u-tokyo.ac.jp

Abstract: Based on the report of the Central Social Insurance Medical Council concerning the 2002 Revision of the Medical Service Fee Schedule, a new inclusive payment system was introduced in 82 special functioning hospitals （university hospitals, National Cancer Center, National Cardiovascular Center) in Japan in April 2003. Beginning in April 2004, the system was gradually extended to general hospitals which satisfy the required conditions. This was the largest and most important revision of the payment system since the Second World War. Under the new system, medical payments comprise two components: inclusive payments based on the Diagnosis Procedure Combination (DPC) system and non-inclusive payments based on the conventional fee-for-service system. Although, strictly speaking, the new payment system is a case-mix payment system (Okamura et al. 2005), we refer to it as the DPC-based inclusive payment system, since the latter is the more commonly used description (Yasunaga et al. 2005). The DPC classifies diseases, operations, treatments and conditions of patients using a 14-digit code. The first 6 digits classify principal diseases based on the International Classification of Diseases-10 (ICD-10). From the seventh to the fourteenth digits, information on operations, treatments and conditions of the patients is given.

Unlike the Diagnosis-Related Group/Prospective Payment System (DRG/PPS) used in the United States and other countries, the Japanese DPC-based payment system is a per diem prospective payment system. The daily payment decreases as the length of hospital stay becomes longer. One of the major purposes of the DPC-based payment system is to reduce the length of hospital stay. However, since the system was introduced recently, sufficient evaluations of the system have not been done. Although the DPC Evaluation Division of the Central Social Insurance Medical Council (2005 and 2006) published reports about the effects of introducing the DPC for the fiscal years 2004 and 2005, the contents are no more than simple comparisons of the lengths of hospital stays. Empirical studies of the lengths of hospital stays and medical payments by hospitals are necessary to evaluate the system correctly. For an analysis, a simple comparison of the average length of stay by hospital is not enough, and differences in types of diseases must be considered. Furthermore, the individual characteristics of patients and types of treatments must also be considered for the same disease.

In this paper, we evaluate the new inclusive payment system for cataract operations (DPC Category Code: 020110). We utilize the data pertaining to 1,225 patients hospitalized for cataract who underwent lens operations from July 2004 to September 2005. We find large differences in the length of hospital stay and the inclusive payment based on the DPC among hospitals, despite eliminating the influence of patient characteristics. The highest average inclusive payment is 3.5 times higher than the lowest payment. On the other hand, differences in the non-inclusive payments based on the conventional fee-for-service among hospitals are relatively small. The largest deviation from the average of all hospitals is about 10%. The payments based on the DPC account for only one-third of the total medical payments for this disease. However, the major differences in medical payments by hospitals are caused by the payments based on the DPC. The results of the study strongly suggest the necessity of revising the payment system to more efficiently use medical resources in the future.

Keywords: *DPC, inclusive payment system, cataract, lens operation, length of hospital stay*

1. INTRODUCTION

Following the recommendations of a report submitted by the Central Social Insurance Medical Council concerning the 2002 revision of the Medical Service Fee Schedule, a new payment system was introduced in 82 special functioning hospitals in Japan, effective beginning April 2003. Since April 2004, the system has been gradually extended to general hospitals that satisfy certain prerequisites. It was the largest and most important revision of the payment system since the Second World War. Under the new system, medical payments comprise two components: inclusive payments based on the Diagnosis Procedure Combination (DPC) system and non-inclusive payments based on the conventional fee-for-service system. Although, strictly speaking, the new payment system is a case-mix payment system (Okamura et al. 2005), we refer to it as the DPC-based inclusive payment system, since the latter is the more commonly used description (Yasunaga et al. 2005). The DPC system classifies diseases, operations, treatments, and patient conditions using a 14-digit code. The first 6 digits classify principal diseases on the basis of the International Classification of Diseases-10 (ICD-10). The remaining digits pertain to information on operations, treatments, and patient conditions.

Inclusive payments based on the DPC system only include fees for the following six categories: basic hospital stays, medical checkups, image diagnosis, medication, injections, treatments under 1,000 points (in Japan, medical care fees are measured in points. Each point corresponds to 10 yen), and medicines used during rehabilitation treatments and related activities. Fees for all other categories are paid on the basis of the conventional fee-for-service system. Unlike the Diagnosis-Related Group/Prospective Payment System (DRG/PPS) used in the United States and other countries, the Japanese DPC-based payment system is a per diem prospective payment system. The per diem payment decreases as the length of hospital stay increases. One of the major purposes of the DPC-based payment system is to reduce the length of hospital stay.

In this paper, we analyze the effect of the DPC-based payment system with respect to cataract operations. The number of cataract patients in Japan has been increasing rapidly with the ageing of the population. The overall difficulty level of surgical and treatment procedures for cataracts is not high owing to their standardization, and the outcomes are generally predictable. Moreover, most cataract operations are scheduled in advance, and the possibility of postoperative infections or complications is very low. Therefore, cataract cases are considered to be the most suitable candidate for evaluating the various aspects of the DPC-based payment system such as the medical payment amounts and the lengths of hospital stays, which we analyze in this paper. To accomplish this, we employ data pertaining to 1,225 patients who were hospitalized for cataracts or related diseases and underwent a lens operation on one eye.

2. DATA

In this paper, we utilize data collected from 16 general hospitals (denoted as Hp1–Hp16) in Japan. The data were originally collected by the DPC Hospital Conference in Japan from July 2004 to September 2005. In our study, we analyze the data pertaining to patients classified under the DPC category code 020110 (ICD-10 code: H25.0-H26.9). These patients were hospitalized for cataract diseases and underwent lens operations. We utilize data strictly pertaining to those patients who underwent cataract operations and the insertion of a prosthetic lens in one eye only. The number of patients included in our data set is 1,225.

2.1. Medical Payments

The average total payment per patient is 24,320 points (i.e., 243,200 yen). Of the total points, inclusive payments based on the DPC system (hereafter referred to simply as “inclusive payments”) account for 8,716 points, and non-inclusive payments based on the conventional fee-for-service system (hereafter referred to simply as “non-inclusive payments”) account for the remainder, that is, 15,604 points (note that we use pre-adjustment values for the inclusive payments). Thus, the share of inclusive payments is 35.8%, or approximately one-third of the total payment. Although in general, the share of inclusive payments is approximately one-third of the total payment amount, its dispersion is rather large. For all patients, the standard deviation for non-inclusive payments is 1,851 points. On the other hand, the standard deviation for inclusive payments is 3,983 points, which is significantly higher than that in the case of non-inclusive payments. The coefficients of variation (= standard deviation/mean) of inclusive and non-inclusive payments are 45.7% and 11.7%, respectively. As is evident, the former is four times the latter. Furthermore, the maximum and minimum average payments are, respectively, equivalent to 3,813 (Hp12) and 15,467 (Hp13) points for the inclusive payments and 13,893 (Hp6) and 16,751 (Hp10) points for the non-inclusive payments. Thus, the range is 11,254 points for the inclusive payments and 2,852 points for the non-inclusive payments. These facts suggest that variations in the inclusive payment amounts are the main cause of the differences in the medical payment amount per patient.

2.2. Lengths of Hospital Stay

As expected, there exists a strong linear relationship between length of hospital stay (in number of days) and the inclusive payment amount. The correlation coefficient is particularly high at 0.9932. This implies that for this period, almost all inclusive payment amounts are determined by the length of hospital stay. From the above, it is clear that a strong relationship exists between the length of hospital stay and the total amount of the payment (with a correlation coefficient of 0.9101) and that the total payment amount increases as the length of hospital stay increases. This, however, does not hold true for non-inclusive payments, which increase little as the length of hospital stay increases (with a correlation coefficient of 0.1742). The per diem inclusive payment is affected by various factors such as hospitalization period and the presence of a secondary disease. Furthermore, for each hospital, the actual payment amount is determined by multiplying the standard amount by the individual hospital coefficient. The individual hospital coefficient is the sum of a basic coefficient and an adjustment coefficient. The adjustment coefficient is determined such that the hospital's revenue becomes equivalent to that of the previous year. As a result, even if two patients undergo identical operations and treatments at two different hospitals, their payment amounts will differ. Since the length of hospital stay is an important factor in the inclusive payment amount determined for a patient, we analyze the length of hospital stay rather than the inclusive payment amounts.

Large differences in the average lengths of stay can be seen among the hospitals. Hp12 has the shortest length of hospital stay with an average of only 1.50 days. The length of hospital stay was the longest in Hp 13 with an average of 7.22 days, which is 5.72 days longer than that of Hp12. Two hospitals, Hp7 and Hp8, have a standard deviation of zero; that is, all the patients at these hospitals were hospitalized for exactly three days during the survey period. This reflects the fact that the length of hospital stay at these hospitals is determined by their clinical paths. Finally, the skewness and kurtosis values are large for some of the hospitals. In other words, the distributions for these hospitals are different from the normal distribution; the large skewness and kurtosis values for certain hospitals imply that some patients remained in the hospital for a long period of time.

3. MODELS

3.1. Length of hospital stay

Length of hospital stay is a discrete-type variable taking positive integers (1,2,3,…). Moreover, the skewness and kurtosis values for some of the hospitals are large. Therefore, the use of ordinary methods such as the least-squares method would not be suitable for analyzing the length of hospital stay. Therefore, we analyze the length of hospital stay by applying the model of Nawata et al. (2006) to hospital profits.

Suppose that the revenue and cost of the hospital are given by

$$b_i = b(t, x_{1i}, u_{1i}) \quad \text{and} \quad c_i = c(t, x_{2i}, u_{2i}), \tag{1}$$

where x_{1i} and x_{2i} are vectors of explanatory variables affecting the hospital's revenue and cost, respectively. The revenue includes not only direct monetary payments but also improvements in its asset value owing to high quality medical services, and the cost also includes an opportunity cost arising from the loss of revenue that the hospital suffers because of the unavailability of beds for new patients. Let

$$g(t, x_i, u_{1i}, u_{2i}) = \frac{\partial c_i}{\partial t} - \frac{\partial b_i}{\partial t}, \tag{2}$$

where x_i is a vector of the explanatory variables contained in x_{1i} , and x_{2i}. Moreover, $g(t)$ is assumed to be an increasing function of t. This is because if $g(t)$ is not an increasing function of t, it implies that the patient never leaves the hospital. While this may be applicable for patients with fatal diseases such as heart disease, brain disease, and cancer, cataract patients rarely have prolonged hospital stays. Therefore, for the cases included in our data set, we can reasonably assume that all the patients left the hospital at some point. As in many previous studies, we assume that

$$z_i(t) \equiv g(t, x_i, v_i) = \alpha_1 t^{\alpha_2} - (x_i'\beta + v_i), \quad \text{where} \quad \alpha_1, \alpha_2 \geq 0, \text{ and } v_i = h(u_{1i}, u_{2i}). \tag{3}$$

Here, v_i is an error term that follows the standard normal distribution. We have made the term $(x_i'\beta + v_i)$ negative so that the length of hospital stay increases as the value of $x_i'\beta$ becomes larger. Further, to remove the influence of a small number of patients who remained in the hospital over a long period of time, we limit the maximum number of days that patients could stay at the hospital to T . For patients staying more than T days, we just use the information such that they stay in the hospital more than T days.

The length of hospital stay is a discrete variable taking positive integers. Therefore, the condition for the i-th patient to leave the hospital on the t_i -th day is given by

$$z_i(t_i) \geq 0 \quad \text{if } t_i = 1, \text{ and } \quad z_i(t_i - 1) < 0, \; z_i(t_i) \geq 0 \; \text{ if } t_i > 1. \tag{4}$$

Note that if the error term follows a normal distribution, the probability of a patient leaving the hospital becomes positive for any positive t. To maintain consistency in the model, we treat $z_i(t_i) \geq 0$ if $t_i = 1$. Thus, the probability of the i-th patient leaving the hospital on the t_i -th day ($t_i \leq T$) is given by

$$P_i = \begin{cases} P[\alpha_1 (t_i)^{\alpha_2} - x_i'\beta \geq v_i], & t_i = 1 \\ P[\alpha_1 (t_i - 1)^{\alpha_2} - x_i'\beta < v_i \leq \alpha_1 t_i^{\alpha_2} - x_i'\beta], & 1 < t_i \leq T. \end{cases} \tag{5}$$

Let Φ be a distribution function of the standard normal distribution. Then,

$$P_i = \begin{cases} \Phi(\alpha_1 t_i^{\alpha_2} - x_i'\beta), & t_i = 1 \\ \Phi(\alpha_1 t_i^{\alpha_2} - x_i'\beta) - \Phi[\alpha_1 (t_i - 1)^{\alpha_2} - x_i'\beta], & 1 < t_i \leq T. \end{cases} \tag{6}$$

The probability of the i-th patient staying in the hospital for a period longer than $T_0 + T$ is given by

$$P[\alpha_1 T^{\alpha_2} - (x_i'\beta + v_i) < 0] = 1 - \Phi(\alpha_1 T^{\alpha_2} - x_i'\beta). \tag{7}$$

From equations (5)–(7), we obtain the following likelihood function and the maximum likelihood estimator (MLE) by maximizing the likelihood function. A program that was specifically developed for this study is employed to estimate the model.

3.2. Non-inclusive Payments

We can treat the variable or the non-inclusive payment z_i, we can treat it as the continuous variable and analyze z_i using the regression model given by

$$z_i = x_i'\gamma + \varepsilon_i. \tag{8}$$

As the previous model, x_i is a vector of explanatory variables affecting the effectiveness of treatment and ε_i is the error term with mean 0 and variance σ_ε^2, respectively.

4. ESTIMATION RESULTS

4.1. Length of hospital stay

n this paper, we select variables that represent (i) the characteristics of patients, (ii) the principal disease classification based on ICD-10, and (iii) the influence of hospitals as explanatory variables. The variables that represented the characteristics of the patient are sex, age, usage of an ambulance, hospital's own outpatient or not, place of hospital stay post-hospitalization, and information on the secondary disease and treatment. The Female dummy (= 1 if the patient was female and 0 if the patient was male) is used for the sex of the patient. The numbers of male and female patients are 518 and 707, respectively. Since the length of hospital stay tends to increase with the patient's age and the number of young patients under 30 was small, we use the Below 30 dummy (= 1 if the patient was below 30 years and 0 if otherwise), the Age 30 dummy (= 1 if the patient was between 30 and 40 years of age and 0 if otherwise), and the Age 40 dummy (= 1 if the patient was over 40 years old and 0 if otherwise). The numbers of patients per age group are 546 in their 70's, 289 in their 80's and 253 in their 60's. The number of patients in their 30's or younger is 13.

For the other patient characteristics, the Ambulance dummy (= 1 if the patient used an ambulance and 0 if otherwise), the Own Outpatient dummy (= 1 if the patient had gone directly to the hospital where they were treated and 0 if otherwise), and the Home dummy (= 1 if the patient returned home post-hospitalization and 0 if otherwise) are used. For secondary diseases and treatments, the Secondary Disease dummy (= 1 if the patient had a secondary disease and 0 if otherwise) and the Secondary Treatment dummy (= 1 if the patient underwent secondary treatment and 0 if otherwise) are used. Although all hospitalizations were planned in advance, five patients used ambulances. Nine hundred eighty-five patients had gone directly to the hospital where they were treated, while 240 were referred there from other hospitals. Post-hospitalization, 1,088 patients returned home, whereas 137 went to another hospital or facility. 766 patients did not have any secondary diseases or treatments, 499 patients had secondary diseases but did not undergo any secondary treatments, and 10 patients had secondary diseases for which they underwent treatment. For principal disease classifications, dummy variables based on the H25.0 category are used. One hundred seventy-three patients had diseases classified under H25.0; 555, under H25.9; and 382, under H26.9. The number of patients with diseases under other categories is relatively small: 90, 6, and 19 patients with diseases classified under H25.1 , H25.2, and H25.8, respectively. Since the average length of hospital stay is the shortest for Hp12, dummy variables based on Hp12 are used to represent the influence of the hospitals. We select T = 10. Note that a total of 7 patients—less than 1% of all patients—stayed at the hospital for more than 10 days.

Table 1 presents the estimates for α and β. The estimate for α_2 is significantly smaller than 1.0, which implies that certain patients remained at the hospital for a long period of time. The estimate for the Female dummy is positive and significant at the 5% level. Moreover, the estimates for the Below 30 dummy, Age 30 dummy, and Age 40 dummy are positive and significant at the 5% level, negative and significant at the 1% level, and positive and significant at the 1% level, respectively. This implies that sex and age affect the length of hospital stay. The estimates for the Ambulance and Own Outpatient dummies are negative but not significant at the 5% level. The estimate for the Secondary Disease dummy is positive and significant at the 1% level and exerts a strong influence on the length of hospital stay. The estimates for the Secondary Treatment and Home dummies are negative but not significant at the 5% level. All estimates for the Principle Disease dummies are not significant at the 5% level. In other words, differences in the principle disease that patients suffer from do not significantly affect the length of hospital stay. This may support the suitability of the DPC groups with respect to cataract patients. All values for the Hospital dummies are positive, with a maximum value of 5.290. This implies that the length of hospital stay is the shortest for Hp12 even if the influence of factors such as patient characteristics is eliminated. Thus, despite the exclusion of the effects of patient characteristics and treatment types, large differences remain among hospitals.

4.2. Non-inclusive Payments

The non-inclusive payment variable z_i is estimated by the least squares method. Since there is no clear trend with respect to the patients' age, we use the dummy variables based on the age 40's (the Age 80 dummy includes all patients over 80 years old.) However, with the exception of the variables for age, the definitions of all the variables are the same as those in the previous section. The estimation results are presented in Table 2. The Female dummy is positive but not significant at the 5% level. While the estimate for the Age 30 dummy is negative and significant at the 5% level, the other estimates are not significant. The estimates for the Ambulance, Own Hospital Outpatient and Secondary Disease dummies are positive but not significant at the 5% level. The estimate for the Secondary Treatment dummy is positive and significant at the 1% level. In fact, the value of this variable is estimated at 5,999 points, which implies that there is a large increase in the non-inclusive payment amount when secondary treatment is carried out. The estimate of the Home dummy is negative but not significant at the 5% level. With respect to the principle disease classifications, the estimate for the H25.8 dummy is negative and significant at the 5% level, but all the other estimates are not significant at this level. The maximum value for the Hospital dummies is 1,535, while the minimum value is –1,708; thus, the difference between the maximum and minimum values is 3,243. This implies that although there exist significant differences among the hospitals, they are not very large as compared to the estimates for the other variables such as those for secondary treatment.

5. EVALUATION OF THE NEW PAYMENT SYSTEM

In this section, we evaluate the new payment system. Let us consider a 70-year-old male patient whose DPC code is 0201103x01x000 (cataract operations and insertion of prosthetic lens, no secondary disease or treatment) and who does not use an ambulance, is an outpatient and returns home, and has a principle disease classified under the ICD-10 code H25.0. The average length of hospital stay is estimated as 3.99 days for all the hospitals, with a standard deviation of 1.49 days. The shortest length of hospital stay is estimated as 1.41 days in Hp12. On the other hand, the longest average length of hospital stay is estimated as 6.97 days in Hp13, which is approximately 5 times that of Hp12. The average inclusive payment for all the hospitals is 9,253 points, with a standard deviation of 3,013 points. The lowest and highest inclusive payments are 3,590 points (Hp12) and 14,772 points (Hp13), respectively, thus exhibiting a range of 11,183 points.

The average non-inclusive payment for all the hospitals is 14,805 points, and the standard deviation is 869 points. The lowest and highest payments are 13,254 points (Hp6) and 16,497 points (Hp10), respectively, thus exhibiting a range of 3,243 points. The coefficient of variation among the hospitals is 5.9%, and the range among the hospitals is 21.9% of the overall average. Thus, the variation is much smaller than that among the hospitals' inclusive payment amounts. The average total payment is 24,058 points for all the hospitals. The share of inclusive payments in the total payments is 38.5%. Although the share of inclusive payments is small, both the standard deviation and range for inclusive payments are 3.5 times larger than those for non-inclusive payments. Consequently, it can be said that the differences in the total medical payment amounts among hospitals are largely due to the differences in the inclusive payment amounts, which are determined by the length of hospital stay. One of the main purposes of the new payment system is to standardize medical payments so that patients pay the same amount for identical treatments, regardless of the hospital that treats them. However, this study found that for cataract patients, the differences in the non-inclusive payment amounts—which are conventional fee-for-service reimbursements—are relatively small, whereas those in the inclusive payment amounts are quite large among sixteen different hospitals. This result shows that the DPC system, in fact, works in reverse of its intended purpose.

The correlation coefficient between non-inclusive payments per diem and total payments is –0.872. To reduce the total medical payment for this disease, it may be effective to shorten the length of hospital stay and spend medical resources intensively within a short period of time. However, since the current system is a per diem prospective payment system, hospitals may not have a strong incentive to reduce the length of hospital stay. For example, since the probability of postoperative infections or complications is very small in the case of cataract operations, few medical resources for medical treatment and examination are necessary after the operation. In other words, the direct cost to hospitals is a decreasing function of time. Moreover, even if the payment per diem is reduced, empty beds may be worse for hospital managers so long as the marginal revenue exceeds the marginal cost.

To make the new payment system work effectively in the case of cataract operations, it may be necessary to reduce the per diem payment by a large amount for long-term hospitalizations and encourage hospitals to spend medical resources intensively within a short period of time. Furthermore, the introduction of the DRG/PPS may merit serious reconsideration in Japan. In the DRG/PPS, a hospital is paid a fixed fee on the basis of the classification of the DRG, regardless of the length of hospital stay. Thus, although the current system essentially employs the same method nationwide to classify diseases, it is necessary to revise the system taking into consideration the characteristics of diseases and hospital specialties in order to facilitate the effective use of medical resources.

6. CONCLUSION

In this paper, we evaluated the Japanese DPC-based inclusive payment system—which was introduced in 2004—with respect to cataract operations. We utilized data pertaining to 1,225 patients who were hospitalized for cataract diseases and underwent lens operations from July 2004 to September 2005. We analyzed the length of hospital stay, which is the most important factor to influence inclusive payment amounts. The variables found to affect the length of hospital stay were those pertaining to the patients' sex and age and the presence of secondary diseases. Moreover, we found large differences in the length of hospital stay among hospitals even after eliminating the influence of patient characteristics and principle disease classifications. The highest average inclusive payment for the hospitals was 3.5 times as high as the lowest payment.

Next, we analyzed non-inclusive payments. The variables affecting the non-inclusive payment are the Age 30 Dummy, Secondary Disease Dummy and H25.8 Dummy. The differences among hospitals in terms of non-inclusive payments based on the conventional fee-for-service system were relatively small. The largest deviation from the average of all hospitals was approximately 10%. Thus, we can conclude that the major differences among hospitals with respect to medical payments are caused by differences in their DPC-based inclusive payments, which account for only one-third of the total medical payments for cataract patients. The results of the study strongly suggest that in future revisions of the payment system, the characteristics of diseases must be considered when determining the efficient use of medical resources.

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Table 1. Estimation Results for Length of Hospital Stay

Variable	Estimate	Standard Error
	2.1310	0.6044
Female Dummy	0.1588	0.0695
Blow 30 Dummy	1.4054	0.6979
Age 30 Dummy	-1.3652	0.2580
Age 40 Dummy × (Age – 40)	0.0174	0.0037
Ambulance Dummy	-0.1051	0.7809
Own Outpatient Dummy	-0.0808	0.0914
Secondary Disease Dummy	0.3001	0.0769
Secondary Treatment Dummy	0.1581	0.4822
Home Dummy	-0.1173	0.1528
Principle Disease Dummies		
H25.1	0.0286	0.6069
H25.2	0.4881	0.6197
H25.8	-0.0316	0.5090
H25.9	-0.1577	0.4230
H26.9	-0.0565	0.4167
Hospital Dummies		
Hp1	3.2520	0.4535
Hp2	2.9639	0.1484
Hp3	4.3442	0.1727
Hp4	3.8194	0.2109
Hp5	3.7617	1.3073
Hp6	3.6674	0.3619
Hp7	2.0452	0.4871
Hp8	2.0845	1.2731
Hp9	0.9070	0.1843
Hp10	3.1095	0.4354
Hp11	2.5642	0.1213
Hp13	5.2897	0.4018
Hp14	1.0896	0.4695
Hp15	4.3771	0.4742
Hp16	2.7421	0.1645
α_1	2.9848	0.4021
α_2	0.5245	0.0394
LogL	-1743.192	

Table 2. Estimation Results for Non-Inclusive Payments

Variable	Estimate	Standard Error
Constant	15,340	509
Female Dummy	106	94
Below 30 Dummy	232	805
Age 30 Dummy	-1,004	508
Age 50 Dummy	-218	459
Age 60 Dummy	-229	421
Age 70 Dummy	-378	406
Age 80 Dummy	-198	417
Ambulance Dummy	1,785	2,611
Own Outpatient Dummy	94	99
Secondary Disease Dummy	246	128
Secondary Treatment Dummy	5,999	478
Home Dummy	-98	119
Principle Disease Dummies		
H25.1	401	263
H25.2	572	441
H25.8	783	372
H25.9	172	245
H26.9	42	219
Hospital Dummies		
Hp1	-684	393
Hp2	554	169
Hp3	232	167
Hp4	847	224
Hp5	-1,429	232
Hp6	-1,708	201
Hp7	-421	123
Hp8	-43	340
Hp9	839	520
Hp10	1,535	261
Hp11	-507	410
Hp13	-1,237	217
Hp14	-433	259
Hp15	-28	246
Hp16	-29	131
R2	0.231551	