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# Are Japanese people satisfied with their health care system and services? Empirical evidence from survey data

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ABSTRACT

*Background:* Japan's universal health care system provides many advantages for its users, including affordable health coverage with free and equal access to medical institutions. However, the Japanese population's satisfaction with the health care system is among the lowest internationally. This paper investigates the extent and determinants of satisfaction toward Japan's health care system and services, and compares the results with those of eleven other high-income countries.
*Methods:* We collected data from Japanese respondents of a 2014 survey based on the 2010 Commonwealth Fund International Health Policy Survey. We analyzed survey data to explore the determinants of the respondents' overall satisfaction with the health care system, and quantified satisfaction using various dimensions.
*Results:* Almost 17% of respondents were "not sure" of their opinion of Japan's health care system. Overall satisfaction in Japan was much lower than that of other high-income countries. Older respondents (≥65 y) evaluated the system more than twice as favorably as younger respondents. Also, the respondents' overall satisfaction with the health care system was intrinsically related to their assessments of health services actually received.
*Discussion:* The higher satisfaction of older persons may be influenced by their higher care needs and use of health services than younger respondents. The promotion of community-based preventive services involving well-trained professionals may improve the use of health care and increase satisfaction levels.


## 1. Introduction

On the surface, Japan's health care system provides many advantages for its users. In addition to equal access to health care through universal coverage, people are free to receive treatment from any medical institution of their choice without gatekeeping regulations. Furthermore, health care is generally affordable in Japan, and access to care is rarely limited by cost. Despite these ostensible advantages, the Japanese population's satisfaction with the health care system is among the lowest internationally [1–3].

It has been pointed out that Japanese people tend to respond negatively to life satisfaction surveys, and this may also be the case with surveys on health care satisfaction [4]. However, this negative skew may be influenced by factors other than the national character of the Japanese people. It is therefore necessary to understand this situation in the context of problems in Japan's health care system. In this study, we examine why Japan's health care system has received generally poor satisfaction ratings despite achieving excellent results in numerous health indicators, such as infant mortality and maternal mortality rates.

International comparisons of health care satisfaction have mainly targeted the US and several European countries, with few studies addressing Japan or other Asian countries [5]. In 2011, the International Social Survey Programme conducted a survey on health and health care in 31 countries or regions [1]. That survey revealed that Japanese people were largely dissatisfied with their treatment and medical doctors (4th lowest among the 31 countries or regions), and had an unfavorable opinion of their health care system (7th lowest). Another survey conducted by the Organisation for Economic Co-operation and Development (OECD) in 2016 found that Japan ranked 21 st among the 35 member countries with regard to satisfaction with the national health care system [2]. That survey also showed that Greece, Iceland, and Japan had the largest decreases in satisfaction with health care over the past decade. During that period, Greece suffered from a severe economic crisis with

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deep cuts in public spending on health care, whereas Japan's health care spending had steadily increased by a few percentage points every year.

The Commonwealth Fund conducted an International Health Policy Survey in eleven high-income countries (including Australia, New Zealand, and countries in Europe and North America) in 2010, but Japan was not included [6]. Based on that survey, Papanicolas et al. examined the respondents' perceptions of health care system performance in the dimensions of affordability of care, effectiveness of care, and performance of one's regular doctor [7]. To facilitate comparisons with the results of that survey, we developed a similar questionnaire for Japanese respondents to measure their degree of satisfaction with Japan's health care system. Our study followed a similar approach to that of Papanicolas et al. to provide evidence from Japan, and we compared our results with those of the other surveyed countries.

## 2. Data

We collected data from an internet survey conducted with operational support from INTAGE Inc. (Tokyo, Japan) between April 1 and April 7, 2014. This survey was specifically designed to be amenable to comparison with the 2010 Commonwealth Fund International Health Policy Survey. Our survey targeted Japanese men and women aged 18–85 years who were stratified by age, sex, and area of residence (urban or rural areas). Each stratum had the same number of respondents.

Our study sample comprised 2229 survey respondents who were not working in mass media, advertising, market research, or medical-related fields. Similar to Papanicolas et al. [7], our survey asked respondents about their (1) opinion on the Japanese health care system in general; (2) perceptions of specific dimensions of care (including the affordability and effectiveness of health care, as well as the perceived quality of recently received treatment); (3) perceptions of using health services (including access, cost burden, and quality of care); and (4) past patient experiences (including waiting times, unmet needs due to cost, hospitalization and emergency visits, and assessments of the patient-practitioner relationship). The survey also collected information on important demographic and socioeconomic characteristics, such as respondent age, sex, education level, annual income, and current health status.

## 3. Methods

### 3.1. Study design

We performed an analysis to explore how the respondents' overall opinions of the health care system were formed. We also examined the respondents' perceptions on the following three dimensions of care: confidence in being able to access affordable care, confidence in being able to find effective care, and the perceived quality of received treatment in the past 12 months. Firstly, we analyzed the possible determinants of the respondents' overall opinion of the health care system. Ordered logistic regression models were used to estimate the odds ratios of respondents reporting favorable overall opinions. We also estimated the marginal effects of various demographic/socioeconomic characteristics and past treatment experiences on these opinions (Marginal effects are presented in the Appendix). Secondly, the respondents' perceptions of specific dimensions of care (affordability, effectiveness, and received treatment) were analyzed in the same way while controlling for their demographic/socioeconomic characteristics and past treatment experiences.

### 3.2. Limitations

The study design had several limitations. First, this survey was developed to be comparable with the 2010 Commonwealth Fund International Health Policy Survey. As the original survey was designed for application across different countries, it may lack important determinants of opinions and perceptions specific to individual countries. Our survey may therefore have incorporated this limitation. Second, the data were obtained from a single year. Time-variant factors may therefore affect responses and preclude the generalization of our findings to other time periods. In addition, our survey was conducted in 2014, which was 4 years after the Commonwealth Fund International Health Survey was conducted.

## 4. Results

### 4.1. Descriptive statistics

Table 1 presents the descriptive statistics for key variables such as age, sex, education level, income, health status, and experiences of our survey respondents. The table also includes comparable data from six selected countries in the 2010 Commonwealth Fund survey [6].

#### 4.1.1. Overall opinion of Japan's health care system

Our survey asked respondents to choose which of three statements best expressed their overall view of the health care system in Japan (Table 2). These statements were centered on the respondents' opinions of whether Japan's health care system required minor changes, fundamental changes, or complete reform. Table 2 also includes corresponding data from the 2010 Commonwealth Fund survey [6]. A small percentage (4.4%) of respondents answered that only minor changes were needed to the health care system (Opinion 1). When compared with the results from the Commonwealth Fund survey [6], this value was much lower than those of other countries such as Australia, Canada, France, Germany, the UK, and the US (24–62%). In contrast, a high percentage (67.9%) of respondents answered that fundamental changes were needed to the health care system (Opinion 2). This value was much higher (by approximately 13–34 percentage points) than those of the other surveyed high-income countries [6]. Eleven percent of Japanese respondents felt that there was a need to completely rebuild the health care system (Opinion 3).

#### 4.1.2. Perceptions of specific dimensions of care

(1) Affordability of care

Only 2.1% of respondents were "very confident" of being able to access affordable care, which was much lower than those of other high-income countries (13–35%) [6]. Approximately 29.0% of respondents answered that they were "confident" of being able to access affordable care, which was only slightly higher than the percentage of respondents who answered that they were "not very confident" or "not at all confident" (28.0%).

More than 58 percent of respondents in other high-income countries were confident of being able to access affordable care [6], but only approximately 30 percent of the Japanese respondents felt this way. In addition, 41 percent of the Japanese respondents chose the neutral option of "neither".

(2) Effectiveness of care

Only 1.4% of respondents were "very confident" of finding effective care, which was also much lower than those of other high-income countries (15–33%) [6].

**Table 1**
Descriptive statistics of the Japanese survey respondents and respondents from six selected countries in the 2010 Commonwealth Fund Survey[a].

| | 2014 | 2010 Commonwealth Fund Survey[a] | | | | | |
|---|---|---|---|---|---|---|---|
| Country | Japan | Australia | Canada | France | Germany | UK | US |
| Number of respondents | 2229 | 3553 | 3302 | 1402 | 1005 | 1511 | 2501 |
| **Characteristics** | | | | | | | |
| Health status: Good | 20.8% | 85% | 89% | 81% | 87% | 92% | 82% |
| Fair | 60.3 | 11 | 8 | 18 | 11 | 7 | 13 |
| Poor | 18.9 | 3 | 3 | 1 | 3 | 2 | 4 |
| Income level: <3 million yen (Below average) | 49.7 | 22 | 16 | 24 | 7 | 5 | 17 |
| 3–4.99 million yen (Approximately average) | 23.1 | 61 | 65 | 67 | 79 | 83 | 61 |
| 5–6.99 million yen | 9.3 | | | | | | |
| 7–9.99 million yen (Above average) | 4.2 | 8 | 11 | 8 | 9 | 4 | 11 |
| ≥10 million yen | 1.9 | | | | | | |
| Not sure | 11.8 | 3 | 2 | 1 | – | 4 | 2 |
| Age category: 18–34 y | 26.6 | 28 | 27 | 30 | 24 | 33 | 23 |
| 35–49 y | 26.5 | 27 | 31 | 25 | 28 | 26 | 29 |
| 50–64 y | 27.2 | 25 | 24 | 24 | 24 | 21 | 27 |
| 65–85 y | 19.7 | 20 | 18 | 21 | 24 | 20 | 20 |
| Education level: Junior High School | 3.9 | 27 | 4 | 12 | 11 | 43 | 9 |
| Senior High School | 44.3 | 24 | 44 | 42 | 40 | | 32 |
| Technical/Junior College | 17.3 | 20 | 26 | 7 | 23 | 14 | 28 |
| University/Postgraduate | 32.1 | 24 | 18 | 9 | 26 | 23 | 27 |
| Others | 2.4 | 4 | 6 | 29 | 1 | 18 | – |
| Sex: Male | 50.3 | 49 | 48 | 50 | 49 | 48 | 48 |
| Female | 49.7 | 51 | 52 | 50 | 51 | 52 | 52 |
| **Experiences** | | | | | | | |
| Doctor knows patients' medical history | 52.2% | 87% | 84% | 84% | 93% | 90% | 85% |
| Doctor allows opportunities for questions | 64.2 | 88 | 86 | 82 | 91 | 91 | 86 |
| Doctor spends enough time with patients | 56.6 | 85 | 80 | 85 | 90 | 88 | 81 |
| Doctor involves patients in decision making | 63.2 | 86 | 84 | 83 | 84 | 90 | 86 |
| Doctor explains things in a clear way | 74.8 | 91 | 88 | 89 | 93 | 90 | 88 |
| Doctor provides explanations of medical test results | 70.4 | 78 | 73 | 88 | 94 | 92 | 88 |
| Received duplicate tests: Yes | 14.4 | 10 | 8 | 14 | 20 | 7 | 17 |
| No | 68.0 | 87 | 89 | 82 | 77 | 91 | 80 |
| Not applicable | 9.5 | 3 | 2 | 3 | 2 | 2 | 2 |
| Skipped needed care due to cost: Yes | 14.3 | 13 | 4 | 6 | 16 | 2 | 22 |
| No | 62.5 | 85 | 95 | 90 | 82 | 95 | 77 |
| Not applicable | 17.5 | 2 | 1 | 4 | 1 | 3 | 1 |
| Access issues due to travel difficulties: Yes | 7.7 | 9 | 6 | 4 | 4 | 5 | 9 |
| No | 69.6 | 89 | 93 | 91 | 94 | 94 | 90 |
| Not applicable | 20.2 | 2 | 1 | 4 | 2 | 1 | 1 |
| Access to after-hours care: Easy | 15.0 | 33 | 30 | 31 | 37 | 52 | 32 |
| Difficult | 43.2 | 46 | 57 | 51 | 48 | 33 | 54 |
| Neither easy nor difficult | 30.6 | – | – | – | – | – | – |
| Not sure | 11.2 | 1 | 3 | – | 1 | 1 | 4 |
| Not applicable | – | 21 | 10 | 18 | 14 | 14 | 8 |

[a] Descriptive statistics from other countries were obtained from the summary results of the 2010 Commonwealth Fund International Health Policy Survey [6]. With regard to survey items on "Experiences", only respondents who had visited a hospital/clinic answered the questions; therefore, the number of respondents changes according to the survey item.

More than 70 percent of respondents in other high-income countries were confident of being able to access effective care [6], but only 23 percent of the Japanese respondents felt this way. Similar to the dimension of affordability, 42.8 percent of the Japanese respondents chose the neutral option of "neither".

(3) Perceived quality of received treatment

Less than half of the Japanese respondents had a favorable opinion ("good", "very good", or "excellent") of their received treatment from hospitals/clinics in the past 12 months; this was much lower than other high-income countries (89–97%) [6]. In contrast, more than 40 percent of the Japanese respondents chose the neutral option of "fair."

### 4.2. Who answered "not sure"?

A relatively large proportion (16.7%) of respondents answered "not sure" when queried about their overall opinion of Japan's health care system. In other high-income countries, only 1–3% of respondents had deferred to this option [6]. To clarify the characteristics of Japanese respondents who answered "not sure", we divided the sample into two groups: those who expressed uncertainty ("not sure") and those with clear opinions (Opinions 1, 2, or 3). The differences in characteristics and past treatment experiences between these two groups were analyzed using the unequal variance *t*-test (Table 3; a full version of the results is presented in the Appendix).

First, the respondents without clear opinions tended to have a significantly lower annual income (<3 million yen) and education

**Table 2**
Overall opinion of the health care system and perceptions of affordability of care, effectiveness of care, and satisfaction with received treatment in the Japanese survey respondents and respondents from six selected countries in the 2010 Commonwealth Fund Survey[a].

| | 2014 | 2010 Commonwealth Fund Survey[a] | | | | | |
|---|---|---|---|---|---|---|---|
| Country | Japan | Australia | Canada | France | Germany | UK | US |
| Number of respondents | n=2229 | 3553 | 3302 | 1402 | 1005 | 1511 | 2501 |
| **Overall opinion of the health care system** | | | | | | | |
| On the whole, the system works pretty well, and only minor changes are necessary to make it work better (Opinion 1) | 4.4% | 24% | 38% | 42% | 38% | 62% | 29% |
| There are some good things in our health care system, but fundamental changes are needed to make it work better (Opinion 2) | 67.9 | 55 | 51 | 47 | 48 | 34 | 41 |
| Our health care system has so many things wrong with it that we need to completely rebuild it (Opinion 3) | 11.0 | 20 | 10 | 11 | 14 | 3 | 27 |
| Not sure | 16.7 | 1 | 1 | – | – | 1 | 3 |
| **Being able to access affordable care** | | | | | | | |
| Very confident | 2.1% | 15% | 24% | 13% | 16% | 35% | 25% |
| Confident | 29.0 | 49 | 44 | 60 | 54 | 55 | 33 |
| Neither/Not sure | 41.0 | 2 | 3 | – | 1 | 3 | 2 |
| Not very confident | 23.7 | 26 | 21 | 23 | 24 | 7 | 23 |
| Not at all confident | 4.3 | 8 | 8 | 4 | 4 | 1 | 16 |
| **Finding effective care** | | | | | | | |
| Very confident | 1.4% | 19% | 25% | 20% | 15% | 33% | 31% |
| Confident | 21.9 | 56 | 51 | 64 | 68 | 59 | 39 |
| Neither/Not sure | 42.8 | 1 | 1 | – | 1 | – | 1 |
| Not very confident | 28.8 | 18 | 18 | 13 | 15 | 7 | 18 |
| Not at all confident | 5.0 | 5 | 5 | 2 | 2 | 1 | 11 |
| **Received treatment from hospitals/clinics in the past 12 months** | n=1645 | | | | | | |
| Excellent | 0.5% | 39% | 39% | 27% | 15% | 30% | 42% |
| Very good | 8.3 | 37 | 35 | 40 | 33 | 49 | 31 |
| Good | 40.7 | 17 | 17 | 24 | 44 | 18 | 16 |
| Fair | 42.1 | 6 | 5 | 6 | 4 | 2 | 6 |
| Poor | 3.1 | 1 | 2 | 1 | 1 | 1 | 2 |
| Not sure | 4.9 | – | 2 | 2 | – | 1 | 1 |

[a] Descriptive statistics from other countries were obtained from the summary results of the 2010 Commonwealth Fund International Health Policy Survey [6].

level (senior high school), and were generally young (18–34 years), female, unmarried, and residing in rural areas.

Second, the respondents without clear opinions were less likely to have experienced active involvement from doctors, such as allowing patients opportunities for questions, involving patients in decision making vis-à-vis their health care and options, and providing understandable explanations. Moreover, these respondents were 17 percent less likely to have undergone regular hospital/clinic visits than the respondents with clear opinions. Respondents who had visited a hospital/clinic within the past year were more likely to have an opinion about the health care system than those who had not recently visited a hospital/clinic. For example, among respondents who had at least one hospital/clinic visit in the past year, 36 percent had an opinion of the health care system, but 27 percent did not (the difference was statistically significant at $p < 0.01$). On the other hand, among respondents who had no hospital/clinic visit in the past year, only 24 percent had an opinion of the health care system, but 38 percent did not (this difference was also statistically significant at $p < 0.01$).

Third, when compared with the respondents with clear opinions, a higher proportion of respondents without clear opinions selected the neutral/uncertain options for other survey items, such as income level (9% higher) and access to after-hours care (16% higher).

### 4.3. Demographic/socioeconomic characteristics and past treatment experiences

The first column of Table 4 shows the odds ratios of various demographic/socioeconomic characteristics and past treatment experiences on the respondents' overall opinion of Japan's health care system. Older respondents (>65 years) evaluated the health care system nearly twice as favorably as younger respondents aged 18–34 years. Compared with respondents with a junior high school education, the higher-educated respondents were 2.06–2.29 times more favorable in their overall assessment of the system. Analysis of the regression model showed that the respondents' demographic/socioeconomic characteristics and past treatment experiences explained 7.7 percent of the variance observed in the overall opinion of Japan's health care system.

The remainder of Table 4 summarizes how the respondents' characteristics were associated with opinions of affordability, effectiveness, and received treatment in the past 12 months. Respondents who reported good health were 2.18–3.22 times more likely to also report favorable perceptions of these three dimensions. Income level was significantly associated with perceived access to affordable care and effective care, but not with the quality of received treatment. When compared with the lowest annual income level (<3 million yen), respondents who earned 3–4.99 million yen, 5–6.99 million yen, and 7–9.99 million yen were 1.38–1.70 times more likely to report favorable perceptions of access to affordable care and effective care. However, respondents living in rural areas were less likely (odds ratios: 0.77–0.80) to report favorable perceptions of these two dimensions of care (Detailed estimates are provided in the Appendix).

With regard to past treatment experiences, we found that having doctors who were actively involved in their patients' care (e.g., had knowledge of their patients' medical history, spent enough time with patients, and provided satisfactory answers to patients' questions) were associated with a higher likelihood of favorable assessments. Moreover, respondents with a regular hospital/clinic to visit were 1.72 times more likely to report favorable percep-

**Table 3**
Differences in the respondents' characteristics and treatment experiences between respondents with and without clear opinions of Japan's health care system.

| | Group with higher mean values | | |
|---|---|---|---|
| | Without opinions ("not sure") | With opinions | Significant difference |
| **Characteristics** | | | |
| Health status: Good | | | |
| Fair | √ | | * |
| Poor | | | |
| Income level: <3 million yen | √ | | * |
| 3–4.99 million yen | | | |
| 5–6.99 million yen | | √ | * |
| 7–9.99 million yen | | √ | * |
| ≥10 million yen | | | |
| Not sure | √ | | * |
| Age category: 18–34 y | √ | | * |
| 35–49 y | | | |
| 50–64 y | | √ | * |
| 65–85 y | | | |
| Education level: Junior High School | | | |
| Senior High School | √ | | * |
| Technical/Junior College | | | |
| University/Postgraduate | | √ | * |
| Male | | √ | * |
| Married | | √ | * |
| Have a child/children | | √ | * |
| Residing in a rural area | √ | | * |
| **Experiences** | | | |
| Doctor knows patients' medical history | | √ | * |
| Doctor allows opportunities for questions | | √ | * |
| Doctor spends enough time with patients | | √ | * |
| Doctor involves patients in decision making | | √ | * |
| Doctor explains things in a clear way | | √ | * |
| Doctor provides satisfactory answers | | √ | * |
| Doctor provides explanations of medical test results | | √ | * |
| Received duplicate tests: Yes or No | | √ | * |
| Not applicable | √ | | * |
| Skipped needed care/prescriptions/medical tests due to cost: Yes or No | | √ | * |
| Not applicable | √ | | * |
| Access issues due to travel difficulties: Yes or No | | √ | * |
| Not applicable | √ | | * |
| Have a regular hospital/clinic to visit when there is a health issue | | √ | * |
| Frequency of visits to hospitals/clinics: | | | |
| On a regular basis | | √ | * |
| At least once in the past 12 months | | √ | * |
| No visit in the past 12 months | √ | | * |
| Access to after-hours care: Easy | | √ | * |
| Difficult | | √ | * |
| Not sure | √ | | * |

A check mark indicates that the mean value of the indicated group was higher than that of the other group. An asterisk indicates that the difference was significant ($p < 0.1$) based on the unequal variance *t*-test.

tions of received treatment. Conversely, the experience of receiving insufficient medical care due to cost was associated with a lower likelihood of favorable perceptions. Finally, hospital/clinic access issues (e.g., difficulties in traveling and lack of access to after-hours care) were also associated with less favorable perceptions.

Analysis of the regression models showed that the respondents' demographic/socioeconomic characteristics and past treatment experiences explained 6.9 percent and 6.2 percent of the variance observed in perceptions of access to affordable care and effective care, respectively. The explanatory power of these variables was highest (16.0%) in the perceived quality of received treatment in the past 12 months.

## 5. Discussion

In this study, we explored the determinants of Japanese survey respondents' overall opinion of their health care system. Satisfaction was also examined in three dimensions of care while controlling for the respondents' demographic/socioeconomic characteristics and previous experiences with the health care system. Our analysis produced several important findings.

The most notable finding was that 16.7% of Japanese respondents answered "not sure" when asked to evaluate their health care system. This was considerably higher than the results of the eleven countries (1–3%) surveyed by the Commonwealth Fund [6]. The respondents who answered "not sure" were more likely to be young, female, unmarried, less educated, have a lower income, and reside in rural areas. This may indicate a need to raise awareness and concern toward the health care system in these groups of people.

Another important finding was that older respondents were more likely to be satisfied with the current health care system. Respondents aged 65 years or older evaluated the entire system more than twice as favorably as younger people aged 18–34 years. This higher satisfaction may be influenced by older persons' higher care needs and use of health care services with a lower financial burden than younger people. At the same time, older persons account for almost 60% of Japan's national medical care expenditure [8]. As part of health care reforms aimed at controlling the budget deficit, Japanese policymakers are considering increasing the financial burden placed on older persons for health care services in the

**Table 4**
Odds ratios of the respondents' characteristics and treatment experiences on their overall opinion and perceptions of specific dimensions of care estimated from ordered logistic regression models.

| | Overall opinion | Specific dimensions of care | | |
|---|---|---|---|---|
| | | Affordable care | Effective care | Received treatment |
| **Characteristics** | | | | |
| 18–34 y | 1 | 1 | 1 | 1 |
| 35–49 y | 1.12 | 0.69*** | 0.86 | 0.71** |
| 50–64 y | 1.03 | 0.67*** | 0.88 | 0.74** |
| 65–85 y | 1.86** | 0.84 | 1.14 | 0.88 |
| Junior High School | 1 | 1 | 1 | 1 |
| Senior High School | 2.29** | 1.01 | 1.07 | 1.36 |
| Technical/Junior College | 2.29** | 1.11 | 1.09 | 1.27 |
| University/Postgraduate | 2.06** | 1.30 | 1.15 | 1.38 |
| **Experiences** | | | | |
| Doctor knows patients' medical history | 0.92 | 1.41*** | 1.48*** | 2.25*** |
| Doctor allows opportunities for questions | 0.60*** | 0.97 | 0.98 | 0.92 |
| Doctor spends enough time with patients | 1.41* | 1.24* | 1.27** | 1.98*** |
| Doctor involves patients in decision making | 1.15 | 0.92 | 0.98 | 1.30* |
| Doctor explains things in a clear way | 1.22 | 1.04 | 0.83 | 1.85*** |
| Doctor provides satisfactory answers | 1.76*** | 1.20 | 1.38** | 2.22*** |
| Doctor provides explanations of medical test results | 1.26 | 0.87 | 0.94 | 0.97 |
| Received duplicate tests | 0.52*** | 0.91 | 1.01 | 0.82 |
| Skipped needed care due to cost | 0.65* | 0.69** | 0.74* | 1.14 |
| Skipped prescriptions due to cost | 1.34 | 0.54* | 0.57* | 1.62 |
| Skipped medical tests due to cost | 0.72 | 0.71* | 0.81 | 0.58** |
| Access issues due to travel difficulties | 0.49*** | 0.72* | 0.70** | 1.11 |
| Have a regular hospital/clinic to visit when there is a health issue | 1.03 | 1.13 | 1.21 | 1.72*** |
| Use of emergency services | | | | |
| None | 1 | 1 | 1 | 1 |
| Once | 0.88 | 1.11 | 1.10 | 1.00 |
| Twice or more | 1.90** | 1.14 | 1.27 | 1.37 |
| Access to after-hours care | | | | |
| Easy | 1 | 1 | 1 | 1 |
| Neither easy nor difficult | 1.11 | 0.74** | 0.99 | 0.57*** |
| Difficult | 0.95 | 0.50*** | 0.66*** | 0.54*** |
| N | 1653 | 1932 | 1932 | 1618 |
| Pseudo $R^2$ | 7.67 | 6.85 | 6.15 | 16.04 |

Respondents' characteristics were controlled as covariates in each ordered logistic regression analysis.
*** $p<0.01$; ** $p<0.05$; * $p<0.1$.

near future. Increasing the copayment rate for older persons may influence their satisfaction levels.

The third major finding of this study was that 26.2% of the Japanese respondents had not consulted with a doctor during the past year, which was higher than the countries surveyed by the Commonwealth Fund (approximately 18 percent on average) [6]. Doctor's consultations per capita in Japan are among the highest in the OECD countries. However, those who visit doctors do so with relatively high frequencies, but there is a non-negligible proportion of individuals who appear to have no interactions with the health care system (as shown in our survey). Japanese studies may tend to focus on individuals who have consulted with doctors, with few analyses that include people who have not undergone any consultations with health professionals. To the best of our knowledge, there are no official data that provide insight into the proportions of the population that do not use health services. Under a universal health insurance system, it is a potentially serious issue that there are so many people who do not undergo consultations with health professionals. This lack of contact with health services can reduce the overall reach and effectiveness of community-based preventive services, thereby resulting in poorer population health and higher medical care expenditure.

The relatively large proportion of people who had not visited a hospital/clinic in the past year may be attributed in part to the characteristics of the Japanese health care system. Under this hospital-centric system, hospitals are crowded with older patients and waiting times are very long. Furthermore, hospitals and clinics are highly specialized, and there are few well-trained family doctors or general practitioners serving the community. As a result, working adults may find it difficult to consult doctor, instead prefer to self-medicate using over-the-counter drugs or even forgo treatment in some cases.

This may partially explain why there were many respondents with no specific opinions of the Japanese health care system. Moreover, in many countries, non-doctor health professionals (such as nurses) are playing increasingly important roles in health care, including preventive health services and counseling for chronic conditions and lifestyle problems. Therefore, we posit that the number of people who had not consulted with any health professional in the past year may be substantially lower than 18 percent in the other surveyed countries.

In contrast, Japanese patients generally do not consult with nurses or other health professionals without consulting a doctor, and the proportion of people who are not regularly examined by health professionals may be much higher than in numerous other countries. As the number of medical institution visits per capita is very high among elderly people in Japan [9,10], younger adults may account for an even smaller proportion of all encounters with health professionals.

Evaluations of the health care system are intrinsically dependent on assessments of medical treatment actually received by patients. In this study, we found that doctors' active involvement was associated with more favorable assessments. Moreover, having a regular hospital/clinic to visit when needed and easy access to after-hours care were also associated with better evaluations of the health care system. Thus, the active involvement of doctors and nurses appears to be an important factor for improving satisfaction with the health care system. In order to raise overall satisfaction

levels and improve health statuses, it may be important to promote community-based preventive health services so that people have reliable and accessible points of contact with well-trained primary healthcare professionals even during times of health.

The proportion of Japanese respondents who reported having "fair" health was relatively high at 60.3% (Table 1). This is consistent with OECD health data in which the Japanese people consistently have the lowest proportion of good self-reported health when compared with other member countries (34% in Japan vs 60–90% in other surveyed countries) [9]. These variations may be influenced by international differences in threshold effects, and the low proportion of Japanese respondents who reported having good health could be affected by the way Japanese people respond to self-assessment questions (i.e., demonstrating a tendency to select an intermediate option while avoiding clear opinions). It is also possible that this threshold effect may have influenced the relatively high proportion (16.7%) of Japanese respondents who were "not sure" about their opinion of the health care system. Therefore, our findings should be interpreted with consideration to this possibility.

## 6. Policy implications and conclusions

Only 4.4 percent of our respondents felt that Japan's health care system works fairly well and requires only minor changes, which was much lower than the countries surveyed by the Commonwealth Fund [6,7]. This comparison with other countries highlights the low level of satisfaction in Japan despite the excellent access to health care.

One possible reason for this is the lack of consistent quality in Japan's health care system. In fact, a major challenge for Japan's health care system is the strengthening of health care quality governance and delivery [11]. According to a report by the OECD, Japan's health care system requires more standardized quality improvement measures as the current quality-related activities tend to be haphazardly applied [11]. That report also notes that "At system-level, the quality architecture is almost exclusively focused on minimum staff numbers, minimum qualifications and minimum standards for health care services" [11]. In addition, Japanese medical education lacks nationally standardized systems to accredit postgraduate training programs and to certify specialist doctors in all medical and surgical disciplines [12]. The quality of care can therefore unstandardized and can vary substantially from doctor to doctor, depending heavily on their individual experience levels [12]. This is uncommon among the OECD countries, and may contribute to a general lack of trust in doctors in Japan as the quality of care is not guaranteed [1].

Another possible reason for the dissatisfaction with Japan's health care system is the lack of available information to guide the appropriate selection of medical institutions. The information needs of Japanese citizens regarding medical institutions (e.g., which medical institution to go to in an emergency or which regional clinic to attend) are high, especially among younger people who generally have less experience with health care services [13]. With Japan's free-access system, many Japanese people base their selection of medical institutions on information from the internet, mass media, and word of mouth [14]. However, many people with non-severe health problems seek care at secondary or tertiary care hospitals, such as general hospitals or university medical centers. These patients can impede the function of these hospitals, contribute to rising medical costs, and decrease overall satisfaction levels due to the prolongation of waiting times at clinics/hospitals. The Commonwealth Fund's survey found that family doctors or general practitioners (called "regular doctors" in their report) play an important role as a source of information [15]. The most recent Commonwealth Fund survey concluded that the UK, Australia, and the Netherlands had the highest-ranked health care system performances among the surveyed countries [16]. Although the health care systems of these countries are strikingly different from each other, a common feature is that their systems are centered on primary health care where well-trained family doctors play a crucial role. On the other hand, the health care system in Japan is hospital- and specialist-centric, and primary care for individual patients has traditionally been managed by specialists who are self-trained to be generalists. There is currently no formal postgraduate training system for general practitioners or family doctors in Japan [11].

One of Japan's most critical policy challenges is to ensure the sustainability of its health care system for its rapidly aging population accompanied by a rising prevalence of multi-morbidity. Japan's health care system is still strongly oriented toward curative care rather than preventing chronic diseases. Although the government aims to refocus the system toward more cost-effective primary health care, the health insurance system and payment system only reimburse medical institutions for the active treatment of individuals who are already ill. Therefore, providers have little incentive to ascertain the health status of local populations and provide appropriate medical information when necessary.

Our analysis indicates that implementing policies to enhance the quality of doctors and care are needed to raise the Japanese people's satisfaction with their health care system.

## Conflict of interest

The authors declare that they have no conflicts of interest.

## Data statement

The data set used in this study was collected from an internet survey conducted with operational support from INTAGE Inc. (Tokyo, Japan) between April 1 and April 7, 2014. This survey was specifically designed to be amenable to comparison with the 2010 Commonwealth Fund International Health Policy Survey. Since our survey was conducted in Japanese and the survey items are essentially identical to those of the international survey, we have decided not to publish these data. We recommend that readers refer to the survey published by the Commonwealth Fund for further details, or contact us for any clarifications.

## CRediT authorship contribution statement

**Masako Ii:** Conceptualization, Investigation, Methodology, Data curation, Writing - original draft, Writing - review & editing, Validation, Supervision, Funding acquisition. **Bing Niu:** Visualization, Investigation, Methodology, Writing - review & editing, Data curation, Software, Validation.

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## Appendix A. Supplementary data

Supplementary material related to this article can be found, in the online version, at doi:https://doi.org/10.1016/j.healthpol.2018.11.008.

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