

## Short Report

## Pharmaceutical company payments to the authors of the Japanese dementia clinical practice guidelines in 2016

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**Introduction:** Financial relationships between pharmaceutical companies and dementia clinical practice guideline (CPG) authors are possibly biasing the recommendations in Japan. This study aimed to reveal characteristics and distribution of pharmaceutical payments made to Japanese dementia CPG authors and an extent of the transparency in the conflicts of interest disclosure among them. **Methods:** We retrospectively retrieved the publicly available data on payment to all the authors in the dementia CPGs by major pharmaceutical companies in Japan in 2016.

**Results:** The total and mean payment values from pharmaceutical companies were \$880,061 and \$14,427, respectively. Of the 61 authors, 49 (80.3%) physicians received at least one payment. Financial relationships of the individual authors were not disclosed in the CPGs.

**Discussion:** Pharmaceutical companies with antidementia drugs had strong financial relationships with the CPG authors. To guarantee fairness in their relationships, it is imperative to establish a framework to disclose the corporate financial conflicts of interest.

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**Keywords:**

Financial conflicts of interest; Dementia; Clinical practice guidelines; Japan; Pharmaceutical payments

**1. Introduction**

Because clinical practice guidelines (CPGs) determine procedures and drugs that should be preferentially used in daily practices in specific medical fields, their authors become critical targets of payments from pharmaceutical and medical device companies [1]. Dementia is a global health burden, and Japan—the third largest pharmaceutical market—is no exception, with 3.1 million patients as of 2015 [2]. Therefore, it is reasonable to hypothesize that pertinent financial relationships may exist between pharmaceutical companies and Japanese dementia CPG authors, possibly biasing the recommendations made therein. This

study aimed to reveal the characteristics and distribution of pharmaceutical payments made to Japanese dementia CPG authors and to examine the extent of transparency in the conflicts of interest (COI) disclosure among the authors.

**2. Methods**

All the authors of the dementia CPGs were included in the study. We retrospectively retrieved the publicly available payment data (fees for lectures, manuscripts, and consultations) of 78 pharmaceutical companies belonging to the Japanese Pharmaceutical Manufacturers Association in 2016. We then summed the payments made to each of the 61 CPG authors and by the pharmaceutical companies. We converted the Japanese yen to US dollars using the exchange rate of 109 yen per US dollar on May 14, 2019. We

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additionally examined a detailed COI policy in the dementia CPGs and descriptively analyzed payments and other data.

### 3. Results

In Table 1, we summarize the payments to the authors of the Japanese dementia CPGs. We included all 61 authors, of whom 37 (60.7%) were physicians at university hospitals. The total payment value was \$880,061, and 49 (80.3%) physicians received at least one payment. The median and mean payment values were \$5,878 (interquartile range: \$507–\$20,875) and \$14,427 (standard deviation: \$20,889), respectively. Notably, six (9.8%) and one (1.6%) physicians received \$5000 or above and \$10,000 or above, respectively. Payments made to the six (9.8%) highest-paid dementia CPG authors accounted for 45.1% (\$396,921) of the total. All authors were medical school professors. Totally, 37 pharmaceutical companies made at least one payment to the authors. The top five highest paying companies manufactured the most widely recommended antidementia drugs. Individual author's financial relationships were not disclosed in the CPGs.

### 4. Discussion

Approximately 80.3% of Japanese dementia CPG authors receive financial payments. In the United States, 86.4%, 81.6%, and 53.0% of oncology [3], dermatology [4], and gastroenterology [5] CPG authors, respectively, receive phar-

maceutical payments. In addition, Japanese dementia CPG authors' mean value of payments was approximately 1.4 times that of American oncology CPG authors (\$14,427 vs. \$10,011), despite difficulties in simple comparison. Thus, CPG authors' financial relationships with the industry should be regarded as influential. In the absence of predominant antidementia drugs and because of the repeated failures of large clinical trials, companies with existing antidementia drugs may emphasize their promotional activities to CPG authors to gain advantage over other companies, increasing the risk of unnecessary prescriptions of antidementia drugs.

Pharmaceutical companies producing highly recommended antidementia drugs had strong financial relationships with the CPG authors. The sales of memantine (Memary; Daiichi-Sankyo Company, Limited), donepezil (Aricept; Eisai Co., Ltd.), and galantamine (Reminyl; Takeda Pharmaceutical Company Ltd.) was \$437, \$220, and \$160 million, respectively, in 2017. Correspondingly, these companies contributed to the biggest proportion of payments to the dementia CPG authors.

CPG authors' financial relationships were not disclosed individually. The global financial burden of dementia was \$818 billion in 2015 and is set to increase with worldwide population aging [6]. These trends would enhance the financial relationships between pharmaceutical companies and physicians involved in dementia management. To guarantee fairness in their relationships, it is imperative to establish a framework to disclose the corporate financial COIs among individual authors of the dementia CPGs.

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Table 1  
Summary of payments to the authors of the Japanese clinical practice guidelines for dementia

| Variable                                                                       | Total population (N = 61) |
|--------------------------------------------------------------------------------|---------------------------|
| <b>Affiliations</b>                                                            |                           |
| University hospitals                                                           | 37 (60.7%)                |
| Other types of hospitals                                                       | 13 (21.3%)                |
| Research institutes                                                            | 3 (4.9%)                  |
| Clinics                                                                        | 1 (1.6%)                  |
| Universities                                                                   | 6 (9.8%)                  |
| Others                                                                         | 1 (1.6%)                  |
| <b>University professors*</b>                                                  |                           |
| Yes                                                                            | 18 (58.1%)                |
| No                                                                             | 25 (41.9%)                |
| <b>Guideline authors with payments (N, %)<sup>†</sup></b>                      |                           |
| Median (interquartile range)                                                   | \$5,878 (\$507–\$20,875)  |
| Mean (standard deviation)                                                      | \$14,427 (\$20,889)       |
| Any                                                                            | 49 (80.3%)                |
| ≥5000 USD                                                                      | 33 (54.1%)                |
| ≥50,000 USD                                                                    | 6 (9.8%)                  |
| <b>Total sum of payments from pharmaceutical companies (top 5)<sup>†</sup></b> |                           |
| Daiichi-Sankyo Company, Limited                                                | \$205,032                 |
| Eisai Co., Ltd.                                                                | \$129,663                 |
| Novartis International AG                                                      | \$95,057                  |
| Takeda Pharmaceutical Company Ltd.                                             | \$77,245                  |
| Janssen Pharmaceuticals                                                        | \$47,977                  |

\*Calculated for those working in universities (N = 43).

<sup>†</sup>Currency exchange rate is 0.0091 USD per 1 Japan yen (as of May 14, 2019).

## RESEARCH IN CONTEXT

1. Systematic review: We reviewed the literature using PubMed. Early studies focused on strong financial relationships between clinical practice guideline authors of various clinical departments and pharmaceutical companies in the US. However, few studies investigated pharmaceutical payments for physicians in countries other than in the US, including Japan.
2. Interpretation: We retrospectively reviewed the publicly available payment data to reveal characteristics and distribution of pharmaceutical payments made to Japanese dementia clinical practice guideline authors. Of the 61 authors, 49 (80.3%) physicians received at least one payment. We revealed strong financial relationships between pharmaceutical companies and Japanese dementia clinical practice guideline authors.
3. Future directions: The manuscript pointed out the concern that increasing global financial burden of dementia enhances the financial relationships between pharmaceutical companies and physicians to specialize dementia. Establishing a framework to disclose the corporate financial conflicts of interest is a necessary step to guarantee fairness in their relationships.

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