

Short Report

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

Yuki Shimada<sup>a,\*</sup>, Akihiko Ozaki<sup>b,c</sup>, Hiroaki Saito<sup>d</sup>, Toyoaki Sawano<sup>e</sup>, Tetsuya Tanimoto<sup>b</sup>

<sup>a</sup>Department of Neurosurgery, Minamisoma Municipal General Hospital, Minamisoma, Fukushima, Japan

<sup>b</sup>Medical Governance Research Institute, Tokyo, Japan

<sup>c</sup>Department of Breast Surgery, Jyoban Hospital of Tokiwa Foundation, Fukushima, Japan

<sup>d</sup>Department of Gastroenterology, Sendai Kousei Hospital, Sendai, Miyagi, Japan

<sup>e</sup>Department of Surgery, Minamisoma Municipal General Hospital, Minamisoma, Fukushima, Japan

## Abstract

**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.

© 2019 The Authors. Published by Elsevier Inc. on behalf of the Alzheimer's Association. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

## 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

\*Corresponding author. Tel.: +81-244-22-3181; Fax: +81-244-228853.  
E-mail address: [smd.yuki@gmail.com](mailto:smd.yuki@gmail.com)

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.

### Acknowledgments

The authors thank Dr. Masahiro Kami (M.K.) for his constructive opinions and insights and the Waseda Chronicle for its extensive support.

Authors' contributions: Y.S. and A.O. had full access to all data in the study and take responsibility for the integrity of the data and the accuracy of the data analysis. Y.S., A.O., and M.K. contributed to study conception and design. Y.S., A.O., and H.S. contributed to acquisition of data. Analysis and interpretation of data were performed by Y.S., A.O., T.S., and M.K. Drafting of the manuscript was done by Y.S., A.O., and T.T.

Funding/support: This study was supported by Ain Pharmacies and Waseda Chronicle.

Role of the funder/sponsor: Ain Pharmacies had no role in the design and conduct of the study; collection, management, analysis, and interpretation of the data; preparation, review, or approval of the manuscript; and decision to submit the manuscript for publication. Waseda Chronicle was engaged in the collection and management of the payment data, but had no role in design and conduct of the study; analysis, and interpretation of the data; preparation, review, or approval of the manuscript; and decision to submit the manuscript for publication. T.T. and A.O. received personal fees from Medical Network Systems (MNES) Inc., and H.S. received honorarium from TAIHO Pharmaceutical Co., Ltd. Other authors declare no competing interests.

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.

## References

- [1] Choudhry NK, Stelfox HT, Detsky AS. Relationships between authors of clinical practice guidelines and the pharmaceutical industry. *JAMA* 2002;287:612–7.
- [2] Prince M, Wimo A, Guerchet M, Ali G-C, Wu Y-T, Prina M. World Alzheimer Report 2015. The Global Impact of Dementia. An Analysis of Prevalence, Incidence, Cost and Trends. London: Alzheimer's Disease International (ADI); 2015.
- [3] Mitchell AP, Basch EM, Dusetzina SB. Financial Relationships With Industry Among National Comprehensive Cancer Network Guideline Authors. *JAMA Oncol* 2016;2:1628–31.
- [4] Checketts JX, Sims M, Vassar M. Evaluating industry payments among dermatology clinical practice guidelines authors. *JAMA Dermatol* 2017;153:1229–35.
- [5] Combs TR, Scott J, Jorski A, Heavener T, Vassar M. Evaluation of industry relationships among authors of clinical practice guidelines in gastroenterology. *JAMA Intern Med* 2018; 178:1711–2.
- [6] Wimo A, Guerchet M, Ali GC, Wu YT, Prina AM, Winblad B, et al. The worldwide costs of dementia 2015 and comparisons with 2010. *Alzheimers Dement* 2017;13:1–7.