

# Pharmaceutical Payments to Japanese Certificated Pediatric Hematologist/Oncologists: a cross-sectional analysis of personal payments from pharmaceutical companies between 2016 and 2019

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## Abstract

Among all pediatric hematologist-oncologists (PHOs) certificated by the Japanese Society of Pediatric Hematology/Oncology (JSPHO), 215 PHOs (70.0%) received \$908,900 personal payments from 54 pharmaceutical companies between 2016 and 2019. Four-year combined average payments per author was \$2,961 (standard deviation: \$6,299). While the prevalence of physicians with payments was relatively stable during the study period with 40.4% and 44.6% in 2016 and 2019, the average annual personal payments increased nearly double from \$559 in 2016 to \$1,096 in 2019, respectively. Payments from the top five companies with the largest total payments accounted for 48.8% of total monetary values.

**Pharmaceutical Payments to Japanese Certificated Pediatric Hematologist/Oncologists: a cross-sectional analysis of personal payments from pharmaceutical companies between 2016 and 2019**Eiji Kusumi, MD1+, Anju Murayama2,3,+,\*, Sae Kamamoto2, Takahiro Maruyama2, Makoto Yoshida2, Hiroaki Saito, MD4, Toyoaki Sawano, MD5, Erika Yamashita2, Tetsuya Tanimoto, MD6, Akihiko Ozaki, MD, PhD7

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**Abbreviations:**

| Abbreviation | Full term   |
|--------------|---|
| FCOIs        | financial conflicts of interest                   |
| JSPHO        | Japanese Society of Pediatric Hematology/Oncology |
| PHO          | pediatric hematologist-oncologists                |
| SD           | standard deviation                                |
| IQR          | interquartile range                               |
| US           | United States                                     |

## Abstract:

Among all pediatric hematologist-oncologists (PHOs) certificated by the Japanese Society of Pediatric Hematology/Oncology (JSPHO), 215 PHOs (70.0%) received \$908,900 personal payments from 54 pharmaceutical companies between 2016 and 2019. Four-year combined average payments per author was \$2,961 (standard deviation: \$6,299). While the prevalence of physicians with payments was relatively stable during the study period with 40.4% and 44.6% in 2016 and 2019, the average annual personal payments increased nearly double from \$559 in 2016 to \$1,096 in 2019, respectively. Payments from the top five companies with the largest total payments accounted for 48.8% of total monetary values.

## The Main Body

### INTRODUCTION

Among various types of pediatricians, pediatric hematologist-oncologists (PHOs) would receive the largest amount of payments from pharmaceutical companies.<sup>1</sup> Plausible explanation of this is the increasing emergencies of new oncology drugs over the past two decades. In addition, the entire pediatrics fields has been characterized by the lack of evidence in patients' care and subsequent off-label prescribing,<sup>2</sup> which means that the field is likely to be susceptible to such financial relationships with pharmaceutical companies. Thus, proper management of financial conflicts of interests (FCOIs) is specifically essential for PHOs.<sup>3</sup> Further, oncologists and hematologists were increasingly targeted by the pharmaceutical companies through the several years.<sup>4,5</sup> This study aimed to elucidate a magnitude of pharmaceutical payments among Japanese PHOs certificated by the Japanese Society of Pediatric Hematology/Oncology (JSPHO).

### METHODS

This study included all PHO certificated by JSPHO in Japan as of November 15, 2021. JSPHO is the primary and largest professional society in the field of pediatric oncology in Japan. We extracted the name and affiliation of all PHO from the official JSPHO webpage (<https://www.jspho.org/activity/certification-application.html>). Then, we collected payment data concerning lecturing, writing, and consulting from a total of 92 pharmaceutical companies belonging to the Japan Pharmaceutical Manufacturers Association and other associated companies between 2016 and 2019, as we described previously.<sup>6-8</sup> After data collection, descriptive analysis of payment data was conducted overall, including average and median monetary values

per physician and proportion of physicians receiving payments. Also, Gini index was used to assess the inequality of payment distribution.<sup>6</sup>

All statistical analyses were performed using Microsoft Excel, version 16.0 (Microsoft Corp), and Stata version 15 (Stata Corporation). This study was approved by the Ethics Committee of the Medical Governance Research Institute before the study begun.

## RESULTS

As of November 15, 2021, we identified 307 PHOs certificated by JSPHO. Among all, 215 (70.0%) PHOs received a total of \$908,900 from 54 pharmaceutical companies between 2016 and 2019 (Supplemental Material 1). The total cases and amounts of payments were 1,383 cases and \$908,900 (Table 1). Average and median of four-years combined total payments per physician were \$2,961 (standard deviation: \$6,299) and \$596 (interquartile ranges (IQR): \$0-\$2,436). The Gini index was 0.769 for the four-year combined total payments. While the prevalence of physicians with payments was relatively stable during the study period with 40.4% and 44.6% in 2016 and 2019, the average annual personal payments increased nearly double from \$559 in 2016 to \$1,096 in 2019, respectively (Table 1 and Supplemental Material 1). Payments from the top five companies with the largest total payments accounted for 48.8% of total monetary values (Table 2).

## DISCUSSION

In this study, we found 70.0% of all Japanese PHOs increasingly received the personal payments from pharmaceutical companies between 2016 and 2019. This study was the second study assessing board certificated specialists in Japan, only following Ozaki et al.<sup>8</sup> Compared to their findings, the average payments to PHOs was only 0.15 times lower than that to the general hematologist-oncologists in Japan (\$740 in PHO vs \$4,383 in certificated general hematologist-oncologists per year).<sup>8</sup> Considering that the number of pediatric cancer patients accounts for only about 0.2% of the total number of new cancer patients in Japan annually, it is reasonable that the average payment to PHOs is lower than that to general hematology-oncologists.

Meanwhile, we found that the average personal payments increased twofold in the four years. The increase in the average payment could be attributed to the fierce marketing competition for the new drugs for hemophilia. Specially, among the top five companies, while the total payments from Kyowa Kirin and Sumitomo Dainippon Pharma remained constant or decreased, the payments from Chugai, Takeda, and Bayer continuously increased through the four years. All the three companies had the novel drugs approved for hemophilia A during the four-years such as Emicizumab (HEMLIBRA approved in May 2018) from Chugai Pharmaceutical; ruriocogog alfa pegol (ADYNOVATE approved in December 2017) and ruriocogog alfa (ADVATE approved in August 2019) from Takeda Pharmaceutical; octocog alfa (KOVALTRY approved in March 2016) and damocogog alfa pegol (JIVI approved in September 2018) from Bayer Yakuhin.

As described previously, the manual collection of payments from pharmaceutical companies may include human error and no inclusion of payments concerning meal, accommodation, travel, and education could lead to underreported payment value<sup>6-8</sup>, but in conclusion, majority of Japanese pediatric hematologists and oncologists received an increasingly large amounts of personal payments from pharmaceutical companies with novel drugs for congenital blood disorder for the reimbursement of lecturing, writing, and consulting between 2016 and 2019.

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## Contributors' Statement

Dr. Kusumi conceptualized and designed the study and the data collection instruments, collected data, drafted the initial manuscript, and reviewed and revised the manuscript.

Mr. Murayama conceptualized and designed the study and the data collection instruments, collected data, carried out the initial analyses, drafted the initial manuscript, and reviewed and revised the manuscript.

Mrs. Yoshida, Maruyama, and Ms. Kanamoto conceptualized and designed the study, collected the data, and drafted the initial manuscript.

Drs. Saito, Sawano, and Ms. Yamashita conceptualized and designed the study and critically reviewed and revised the manuscript for important intellectual content.

Drs. Tanimoto and Ozaki conceptualized and designed the study, coordinated and supervised data collection, and reviewed and revised the manuscript.

All authors approved the final manuscript as submitted and agree to be accountable for all aspects of the work.

### **Conflict of Interest Disclosures (includes financial disclosures):**

For the financial conflicts of interest, Dr. Kusumi received personal fees from Otsuka Pharmaceutical Co. Ltd outside the scope of the submitted work. Dr. Saito received personal fees from TAIHO Pharmaceutical Co. Ltd outside the scope of the submitted work. Drs. Ozaki and Tanimoto received personal fees from Medical Network Systems outside the scope of the submitted work. Dr. Tanimoto also received personal fees from Bionics Co. Ltd, outside the scope of the submitted work. Regarding non-financial conflicts of interest among the study authors, all are engaged in ongoing research examining financial and non-financial conflicts of interest among healthcare professionals and pharmaceutical companies in Japan. Individually, Anju Murayama, Hiroaki Saito, Toyooki Sawano, Tetsuya Tanimoto, and Akihiko Ozaki have contributed to several published studies assessing conflicts of interest and quality of evidence among clinical practice guideline authors in Japan and the United States. Among their previous articles, the authors have self-cited several articles in this study to gain deeper insights and explain the context of financial conflicts of interest among healthcare professionals in Japan. Dr. Kusumi was a hematology specialist board certificated by the Japanese Society of Hematology. The other authors have no example conflicts of interest to disclose.

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