

# Proportion of the Expenses of Over-the-counter Equivalent Drug Among Total Healthcare - An Analysis Using the “Wellness-Star☆” Database

AUTHORS

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## OBJECTIVES

- Over-the-counter equivalent drugs (OTCEDs) refer to medications that are covered by health insurance but have the same ingredients as those available for purchase over the counter. Although OTCEDs can be purchased at pharmacies, as the patients only need to pay the copayment portion, many patients visit doctors to obtain OTCEDs.
- As the health insurance system is fundamentally designed to support medical care that is necessary and financially burdensome for individuals, some people claim that OTCEDs should be excluded from the coverage.
- On the other hand, other people think that excluding OTCEDs from the coverage would simply lead physicians to prescribe more expensive medications instead, ultimately increasing overall healthcare costs.
- To assess the significance of these debates, we calculated the proportion of healthcare expenditures attributable to OTCEDs.

## METHODS

- Using the “Wellness-Star☆” database in CY 2021, the number of prescriptions, the number of days supplied, and healthcare expenditures related to OTCEDs per patient per year, stratified by age and gender, were calculated.
- The database is a health insurance claims database compiled by Nippon Life Insurance Company from approximately 200 health insurance societies.
- OTCEDs were defined as drugs containing the same active ingredients as OTC medicines.
- OTCEDs were defined, according to the classification of medicines on the Ministry of Health, Labour and Welfare’s website<sup>1</sup> “Pharmaceuticals Sales System,” as the union of “Guidance-required medicines,” “Class 1 drugs,” “Class 2 drugs,” and “Class 3 drugs.”

## RESULTS

- In CY2021, the number of days supplied, the number of prescriptions, and healthcare expenditures related to OTCEDs per patient per year were 34.5 days, 5.0 times, and €17.72 respectively.(Table1)
- About 0.84% of the total cost was attributable to OTCEDs.
- OTCEDs were relatively frequently prescribed to young children and the elderly.

Sex	Age group	Number of insured persons	Patients who have received prescriptions for OTCEDs	Days of supply per Patient per year	Number of supply per Patient per year	Per-Patient per-year (PPPY) healthcare expenditures for OTCEDs
Male	0-4	94,082	73,250	35.1	9.8	€ 25.22
	5-9	108,466	79,059	29.8	6.4	€ 25.09
	10-14	110,451	69,723	23.5	4.6	€ 20.21
	15-19	116,557	54,315	22.1	3.9	€ 15.54
	20-24	150,960	51,925	19.4	3.4	€ 10.91
	25-29	141,738	50,850	20.1	3.4	€ 10.30
	30-34	137,509	52,705	22.9	3.6	€ 11.08
	35-39	142,349	56,433	24.4	3.6	€ 11.33
	40-44	147,760	57,688	28.2	3.7	€ 12.38
	45-49	178,039	68,288	34.2	3.9	€ 13.36
	50-54	170,718	69,103	41.2	4.3	€ 15.46
	55-59	135,151	61,162	49	4.8	€ 18.23
	60-64	100,446	49,456	55.1	5.3	€ 20.55
	65-69	50,300	25,863	56.7	5.6	€ 21.68
	70-74	21,850	11,576	61.6	6.1	€ 25.30
Female	0-4	89,086	67,716	33.5	9.2	€ 22.95
	5-9	102,890	73,111	27	6.1	€ 23.31
	10-14	104,782	63,140	21.4	4.5	€ 19.80
	15-19	107,335	53,820	22.2	3.9	€ 15.83
	20-24	121,780	53,467	20.3	3.5	€ 10.83
	25-29	109,777	55,424	23.3	3.9	€ 11.48
	30-34	113,159	60,962	26.7	4.2	€ 12.53
	35-39	128,437	67,766	30.5	4.3	€ 14.15
	40-44	140,416	70,230	37.1	4.5	€ 16.29
	45-49	170,128	82,678	43.1	4.7	€ 18.40
	50-54	163,866	83,842	50	5.1	€ 20.73
	55-59	122,698	65,976	56.7	5.6	€ 22.96
	60-64	84,296	46,056	58.9	5.9	€ 23.52
	65-69	36,409	19,931	61.5	6.1	€ 25.67
	70-74	20,619	12,042	70.2	7.1	€ 29.92
Total		3,422,054	1,707,557	34.5	5.0	€ 17.72

Table 1: Days of Supply, Number of supply and Healthcare Expenditures for OTCEDs by Sex and Age Group

## CONCLUSIONS

- The cost of OTCEDs accounted for just under 1% of total healthcare expenditures, which is not insignificant.
- Since health insurance societies are employer-based and younger, this proportion is likely to be even higher if expanded to all insurers.
- Given the importance of the OTCED issue, it is necessary to develop a more sophisticated model for a simulation.

## Reference

- The system for distribution of pharmaceuticals. Ministry of Health, Labour and Welfare. Retrieved June 18, 2025, from <https://www.mhlw.go.jp/stf/seisakunitsuite/bunya/0000082514.html>

## Conflicts of Interest

- A.Kakinuma, Y.Miyamori, M.Kinugawa, T.Yabuki, M.Takamoto, K.Sato, T.Kakoi and S.Yamamoto are employees of Nippon Life Insurance Company.
- K.Iwasaki, T.Takeshima and A.Chida are employees of Milliman, which serves as a consultant to Nippon Life.
- A.Igarashi is a professor at the University of Tokyo and an advisor to Nippon Life.
- N.Ikegami is an advisor to Milliman Inc.