

Second Quarter Business Results for Fiscal 2022

November 7, 2022
TSUMURA & CO.

01 Second Quarter Business Results for FY 2022

02 R&D Direction and Recent Progress

Second Quarter Business Results for Fiscal 2022

November 7, 2022

President and Representative Director, CEO
Terukazu Kato

01

Second Quarter Business Results for FY 2022

02

Initiatives and Progress for
Domestic Business and China Business

03

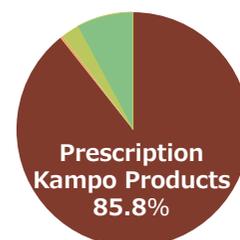
FY 2022 Earnings Forecast

2Q Business Results for FY 2022



[Million yen]	2Q FY 2022 Revised Plan (3/8/2022)	2Q FY 2022 results	Achievement rate	YoY	
				Amount	Change
Sales	68,900	70,107	101.8%	+6,690	+10.5%
Domestic business	–	62,922	–	–	–
China business	–	7,184	–	–	–
Operating profit	10,700	11,677	109.1%	(6)	(0.1) %
Domestic business	–	11,765	–	–	–
China business	–	△87	–	–	–
Ordinary profit	14,000	15,965	114.0%	+2,556	+19.1%
Profit attributable to owners of parent	9,600	11,889	123.8%	+1,923	+19.3%
PL translation rate (CNY)		18.98	–	+2.32	–

Ratio to total sales



External sales by consolidated subsidiaries 10.9%
 OTC Kampo etc 2.9%
 Other prescription pharmaceuticals 0.4%

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Firstly, I will give an overview of second quarter performance in fiscal 2022.

As you can see, net sales and profits as each level slightly overshoot our revised plans for the first half.

Net sales totaled 70.1 billion yen, 1.8% above our revised plan for the first half and up 10.5% year-on-year.

This breaks down to sales in the domestic business of 62.9 billion yen and sales in the China Business of 7.1 billion yen.

The sales mix ratios are shown in the pie graph to the right above.

Operating profit came to 11.6 billion yen, 9.1% above our revised plan for the first half but down 0.1% year-on-year.

Ordinary profit amounted to 15.9 billion yen, 14.0% above our revised plan for the first half and an increase of 19.1% year-on-year.

Meanwhile, profit attributable to owners of the parent totaled 11.8 billion yen, 23.8% above our revised plan for the first half and a growth of 19.3% year-on-year.

I will explain the key points in performance on the next slide.

Key Points in Performance



Achieved revised plan for sales and profits at each level

Net sales	70,107	million yen	Achievement rate	+101.8%	YoY	+10.5%
<ul style="list-style-type: none"> ■ Sales of the 129 prescription Kampo products: 60,191 million yen, grew 6.8% year-on-year ■ Sales of OTC Kampo formulations and other healthcare products: 2,003 million yen, rose 20.0% year-on-year ■ China business sales: 7,184 million yen 						
Operating profit	11,677	million yen	Achievement rate	+109.1%	YoY	(0.1%)
Operating profit margin	16.7	%	vs. revised plan	+1.2pt	YoY	(1.7pt)
<ul style="list-style-type: none"> ■ Cost-to-sales ratio: 50.3%, down 0.1pt vs. revised plan but up 1.9pt year-on-year; YoY comparison: Mainly impact of a climb in energy expenses and a growth in external sales in China ■ SG&A ratio: 33.0%, down 1.1pt vs. revised plan and down 0.1pt year-on-year; YoY comparison: Rise in sales mainly absorbed the one-off rise in expense in tandem with operations at the Tianjin Plant 						
Ordinary profit	15,965	million yen	Achievement rate	+114.0%	YoY	+19.1%
<ul style="list-style-type: none"> ■ Foreign exchange gain primarily related to loans to overseas subsidiaries: 3,950 million yen, up 2,765 million yen; foreign exchange impact (acceleration in the devaluation of the yen) 						
Profit attributable to owners of parent	11,889	million yen	Achievement rate	+123.8%	YoY	+19.3%

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Sales of the 129 prescription Kampo products in the domestic business were 60.1 billion yen, a rise of 6.8% versus the same period, a year earlier. In addition to an increase in e-promotion benefits in line with initial plans, this reflects a growth in sales of formulations related to COVID-19 symptoms, including fever and cough, and aftereffects, such as cough, fatigue and anxiety, and seasonal symptoms due to the intense summer heat, including poor appetite and summer weight loss.

Sales of OTC Kampo formulations, etc. attained 2.0 billion yen, an expansion of 20% versus the same period, a year earlier. This reflects activities undertaken by Tsumura to provide information at pharmacies and drugstores to get pharmacists and registered sales staff to conduct sales by recommending a Kampo formulation that suits the symptoms of each customers.

Sales in the China Business came to 7.1 billion yen, owing to an expansion in sales of raw material crude drugs in the crude-drug platform.

The cost-to-sales ratio was 50.3%, down 0.1pt below the revised plan and nearly in line with year-on-year plan.

The year-on-year rise in this ratio of 1.9pt was mainly attributable to an increase in energy cost and a rise in external sales in the China Business.

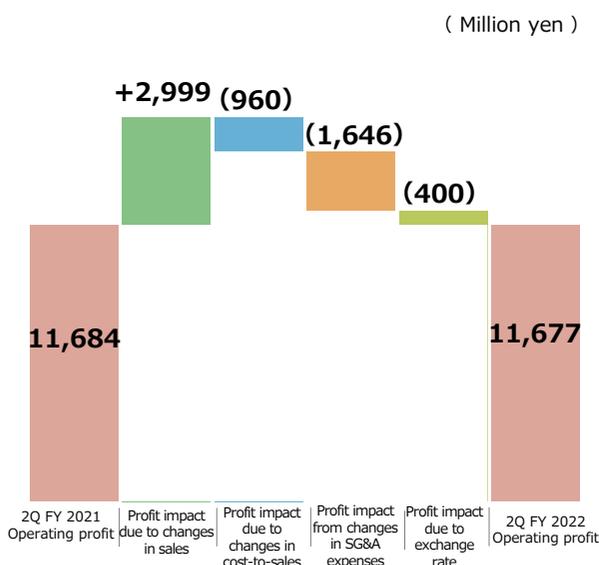
The SG&A ratio was 33.0%. Due to a shift in the posting period for some expenses, the SG&A ratio declined 1.1pt versus the revised plan and was 0.1pt lower than the same period, a year earlier, due to an increase in sales.

Meanwhile, non-operating income was substantially impacted by an expansion in forex gain due to an acceleration in the devaluation of the yen against major currencies.

Factors Triggering Changes in Operating Profit (YoY)



(Million yen)



Breakdown of change in net sales: +2,999	
Domestic	+2,201
Overseas	+797
Breakdown of change in cost-to-sales: (960)	
Crude drug procurement cost (Domestic: decline in unrealized profit)	+126
Raw material expense (Domestic: Soaring expense for materials other than raw material crude drugs)	(170)
Processing expense, etc. (Domestic: Mainly soaring energy prices)	(274)
Outside sales in China (Overseas: Growth at China business which has a high cost-to-sales ratio)	(641)
Breakdown of change in SG&A expense: (1,646)	
Depreciation (Mainly increase in tandem with operations at Tianjin Plant)	(449)
Advertising	(129)
R&D	(103)
Sales promotions	(73)
Salary allowance	+14
Other (Mainly rise in volume of activities, system introduction)	(905)
Foreign exchange impact (400 million yen)	

Operating profit was 11.6 billion yen, nearly unchanged year-on-year.

As the main factor triggering change, there was positive impact of 2.99 billion yen reflecting a growth in sales.

This breaks down to positive impact from domestic sales of 2.2 billion yen and from overseas sales of 790 million yen.

Next, there was negative impact of 960 million yen due to an increase in cost-to-sales.

This breaks down to a positive impact of 120 million yen reflecting a decline in crude drug procurement cost due to a decrease in unrealized profit, and an improvement in productivity reflecting an increase in production volume.]

On the down sides, there was a negative impact of 270 million yen due to a rise in processing expense in tandem with soaring energy prices, and a negative impact of 170 million yen due to soaring expense for materials other than crude drugs reflecting an increase in commodity prices. There was also negative impact of 640 million yen due to an increase in external sales in the China Business.

Then, there was negative impact of 1.64 billion yen due to a boost in expenses. A break down is shown in the table to the right.

Note that we will start posting expense at the Tianjin Plant due to the start of process validation which was commenced from August. Tsumura will post this manufacturing cost in the second half.

There was also negative impact of 400 million yen from foreign exchanges due to a depreciation in the yen.

Financial Condition/Cash Flow Position

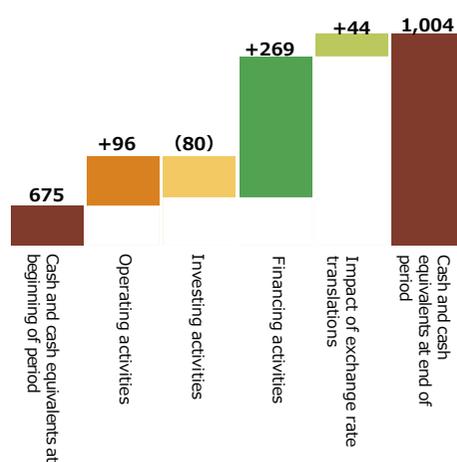


(Million yen)

	FY 2021 (March 2022)	FY 2022 2Q	Change
Total assets	350,981	402,930	51,948
Current assets	229,420	275,438	46,017
Non-current assets	121,561	127,492	5,931
Total liabilities	92,871	124,628	31,756
Current liabilities	45,875	47,754	1,879
Non-current liabilities	46,996	76,873	29,877
Total net assets	258,109	278,302	20,192
Equity ratio	68.3%	63.8%	(4.5) pt

Bond issuance: 30 billion yen (Sep. 8, 2022)

(Hundred million yen)



	FY 2021 (March 2022)	FY 2022 2Q	Change	Of which, Exchange rate
Inventories	92,751	100,764	8,012	7,470
Merchandise and finished goods	10,247	10,138	(109)	408
Work in process	13,614	13,139	(475)	238
Raw materials and supplies	68,889	77,485	8,596	6,823

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Moving on, I will only explain the points to our financial condition and cash flow position.

The rise in current assets of 46.0 billion yen is primarily attributable to an increase in cash and deposits of 32.8 billion yen accompanying a bond issuance and proceeds of 8.5 billion yen from inventories owing to positive foreign exchanges impact.

Non-current assets increased mainly attributable to impact from capex in tandem with plant construction at Tianjin Tsumura Pharmaceuticals and forex translation impact.

Non-current liabilities rose chiefly attributable to a 30.0 billion yen bond issuance.

Extrapolating from this, the equity ratio stood at 63.8%, a decline of 4.5pt.

Cash flows are shown in the waterfall chart on the right.

Bond Issuance



Procure funds through bond issuance to use to fund growth investments and for the redemption of outstanding bonds

	No. 1 unsecured bond (7-year bond)	No. 2 unsecured bond (10-year bond)	No. 3 unsecured bond (7-year bond)	No. 4 unsecured bond (10-year bond)
Total issuance	15.0 billion yen	15.0 billion yen	15.0 billion yen	15.0 billion yen
Issuance date	June 2017	June 2017	September 2022	September 2022
Maturity	May 2024	June 2027	September 2029	September 2032

Use of funds procured from the issuance of the No. 3 and No. 4 unsecured bonds

Redemption for outstanding bonds

Portion of funds will be for the redemption of the No. 1 unsecured bond

Growth investment

CAPEX & DX investment

Improve productivity via capacity boost, automation and DX (digital transformation): roughly 115.0 billion yen

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On September 8, Tsumura newly issued a total of 30.0 billion yen in bonds. This breaks down to 15.0 billion yen in 7-year bonds and 15.0 billion yen in 10-year bonds.

In the first medium-term management plan, we planned investments of around 115.0 billion yen to enhance productivity through a boost to production capacity and automation and digitalization.

A portion of this financing will go to growth investments and will also be used to redeem existing bonds which will reach maturity in 2024.

We implemented this fund procurement at this timing, mainly taking into account the market environment.

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Second Quarter Business Results for FY 2022

02

**Initiatives and Progress for
Domestic Business and China Business**

03

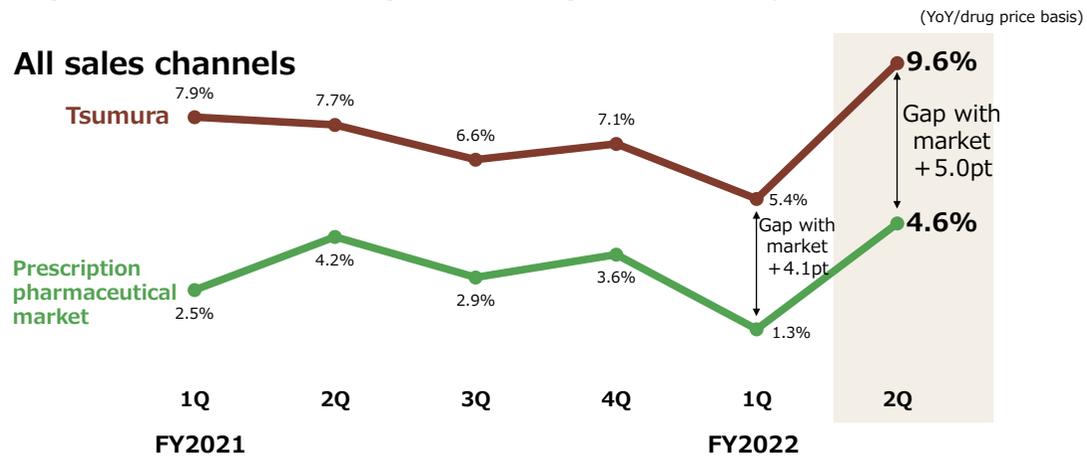
FY 2022 Earnings Forecast

Secondly, I will explain the activities at our domestic business and the China Business and the progress we are making.

Comparison with the Prescription Pharmaceutical Market



On a NHI drug price basis, grew 9.6% year-on-year
 Gap with the market expanded 0.9pt, versus 1Q



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As you can see, this graph shows a comparison with the ethical pharmaceuticals market.

This shows the year-on-year growth rate on an NHI drug price basis for all sales channels at hospitals and general clinics.

Trends at Tsumura are basically the same as in the market. In the second quarter, the growth rate was +9.6%.

This is a gap of 5.0pt with the market and an expansion of 0.9pt in comparison with the first quarter.

A comparison by sales channel appears in the appendix.

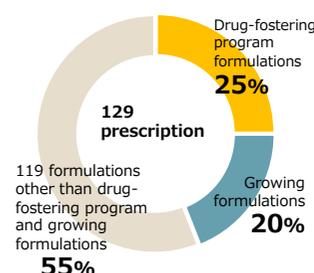
Sales of Drug-fostering Program Formulations/Growing Formulations



(Million yen)

	Net sales Ranking	Product No./formulation name	FY 2021 2Q	FY 2022 2Q	YoY	
Drug-fostering program formulations	1	100 Daikenchuto	4,790	4,927	+137	+2.9%
	2	54 Yokukansan	3,720	3,775	+55	+1.5%
	4	43 Rikkunshito	3,557	3,698	+141	+4.0%
	8	107 Goshajinkigan	1,736	1,755	+18	+1.1%
	23	14 Hangeshashinto	678	708	+30	+4.4%
Total sales for drug-fostering program formulations			14,482	14,865	+382	+2.6%
Growing formulations	2	41 Hochuekkito	3,741	4,060	+319	+8.5%
	5	17 Goreisan	2,680	3,198	+517	+19.3%
	7	24 Kamishoyosan	2,415	2,583	+168	+7.0%
	16	108 Ninjin'yoeito	961	1,034	+73	+7.6%
	17	137 Kamikihito	849	1,013	+164	+19.3%
Total sales for growing formulations			10,647	11,890	+1,242	+11.7%
Total sales for 119 formulations other than drug-fostering program and growing formulations			31,247	33,435	+2,188	+7.0%
Total sales for 129 prescription Kampo products			56,377	60,191	+3,814	+6.8%

Ratio to total sales



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This slide shows sales of prescription Kampo products and growing formulations.

Sales of the 129 prescription Kampo products totaled 60.1 billion yen, a growth of 6.8% year-on-year.

Starting from fiscal 2022, the lineup of growing formulations was replaced with Ninjin'yoeito and Kamikihito. In light of this, the ratio of sales of the 129 prescription Kampo products dropped 2pt year-on-year to 20%. Given the high growth rate for Goreisan and Kamikihito, growing formulations rose 11.7% year-on-year, substantially outperforming the overall growth rate.

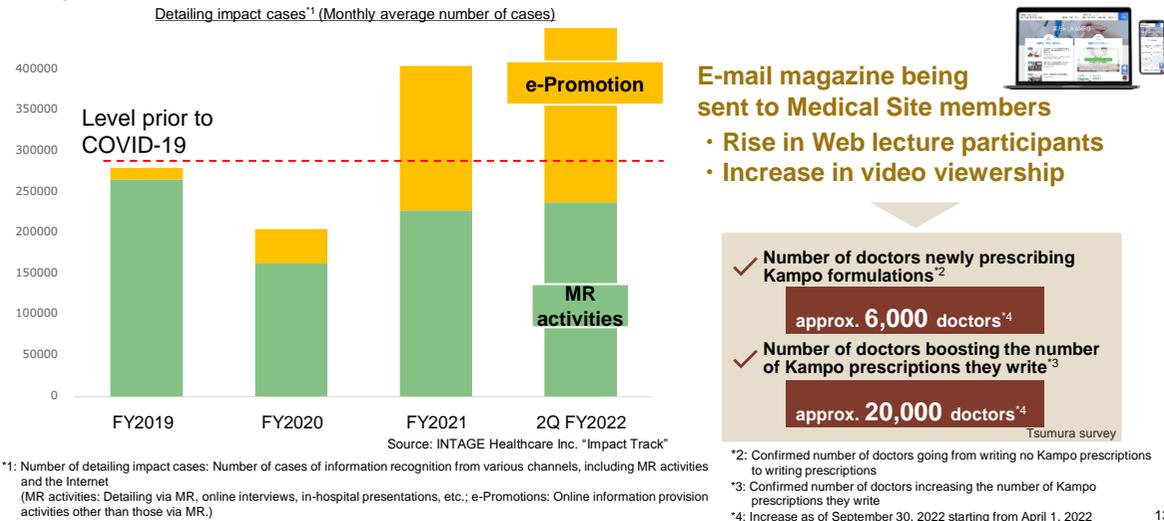
The number of facilities accepting deliveries of Goreisan increased owing to measures, mainly lectures in the cardiovascular domain.

In addition, sales of Kamikihito continued to grow. In addition to an improvement in recognition of Kamikihito owing primarily to e-promotions, this reflects a response to needs such as anxiety in tandem with fatigue, including COVID-19 aftereffects.

Sales of the other 119 formulations was 33.4 billion yen, a growth of 7.0% year-on-year, owing to a rise in demand for common cold-related formulations owing to the spread of the Omicron virus.

Results owing to Transformation in Information Provision Activities

Increase the number of doctors newly prescribing Kampo formulations and the number of doctors boosting the number of Kampo prescriptions they write by improving the recognition of Kampo information



This graph depicts “detailing impact” trends, which is the number of cases of doctor information recognition owing to MR activities (green portion) and e-promotions (yellow portion).

Reflecting the concentrated investment in digital technologies and tools up to FY 2021, detailing impact, which was driven by e-promotions, continued to increase to above levels seen prior to COVID-19 in FY 2019.

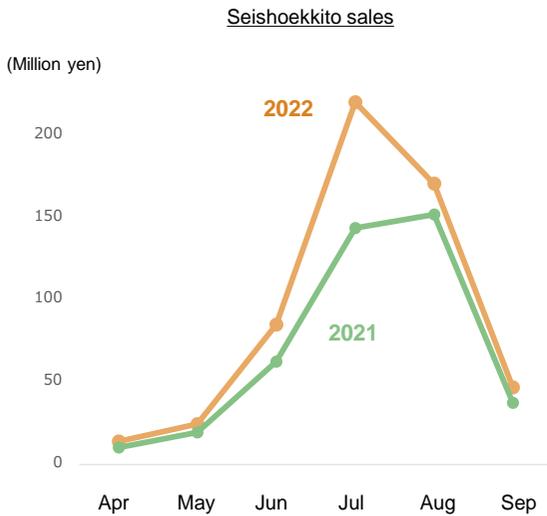
MR activities, in which MRs interview doctors and hold presentations in person and online, have not returned to level before COVID-19. Although online activities increased, face-to-face activities are still restricted, including visitation limitations.

We aim for a full lineup of content on our Medical site for e-promotions, in other words information provision activities not conducted via MRs, including Web lectures and video streaming.

The number of Medical Site members is smoothly increasing. Consequently, prescription explanation videos on the site and Web lecture viewership have become fixed through the distribution of periodic e-mail magazines.

Participation at lectures held face-to-face prior to COVID-19 were at several hundred persons level. In contrast, Web lectures are drawing in several thousands to several tens of thousands.

Consequently, based on our analysis, in the second quarter of fiscal 2022, doctors that are newly prescribing Kampo formulations totaled around 6,000 doctors and the number of doctors that increased the number of Kampo prescriptions they are writing was around 20,000.



Bar graph: Japan Meteorological Agency data
Line graph: Tsumura actual sales (invoice price) data

<Medical Site: Video library (Kampo lesson)>

Kampo formulation/use by disease/symptoms “Heat stroke/summer fatigue”



Kampo lesson: Heat stroke/summer fatigue
Use depending on timing

Goreisan 五香散	Seishoekkito 清暑益氣湯	Hochuekkito 補中益氣湯
Heat stroke symptoms start to show	Exhaustion due to heat stroke, and continual dry mouth and sweat	Heat sensation, sweating and dry mouth symptoms dissipate but gastrointestinal symptoms

In addition to information provision activities via MR activities and e-promotions, the following three factors, including the intense summer heat from June 2022 and the spread of Omicron variant BA.5, led to demand trends that largely differed from usual summers.

The first factor is the intense summer heat.

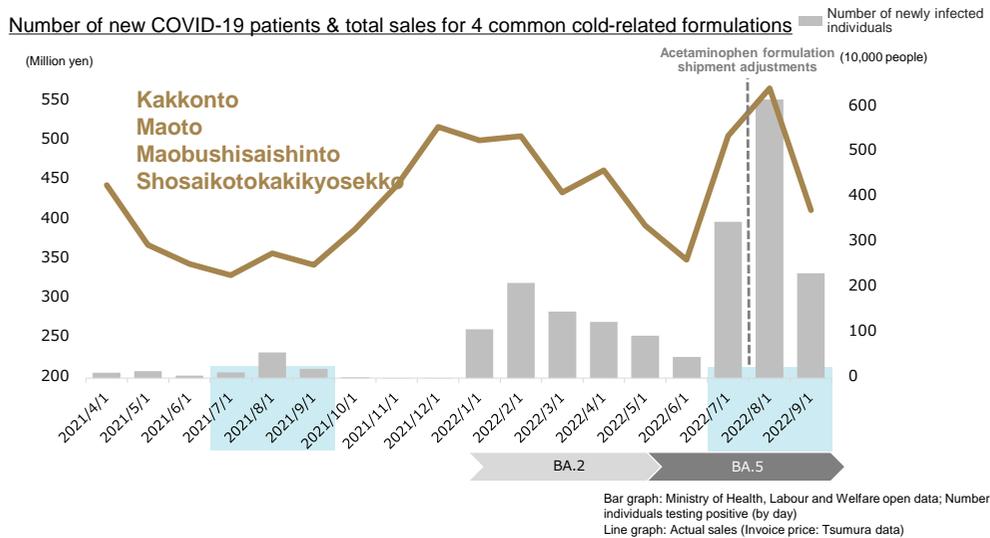
This graph shows a year-on-year comparison of monthly sales of Seishoekkito in the first half.

Seishoekkito is a formulation to treat weight loss in the summer (in other words, summer fatigues). Sales of Seishoekkito rose 35% in June and 53% in July, reflecting the intense heat.

COVID-19 Impact (1)



Growth in common cold-related formulation sales due to shipment adjustments for acetaminophen formulations



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The second factor is impact from a rapid spread of COVID-19 and sharp increase in infected individuals.

Entering 2022, the Omicron virus BA.2 spread. Furthermore, from around June, this was replaced with BA.5, a stronger variant. From July, when the Omicron virus BA.5 started to spread, sales of formulations related to the common cold, sharply increased.

During the summer months, sales of the four representative common cold-related formulations enjoyed highly specific demand in contrast with July-September 2021.

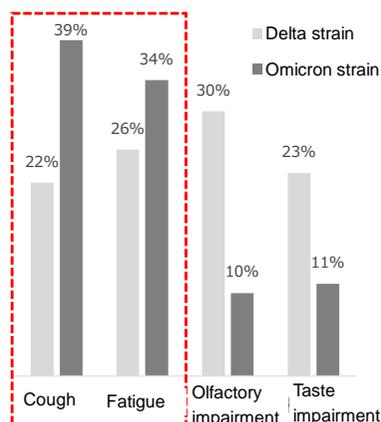
An adjustment in shipments of acetaminophen, an antipyretic analgesic, occurred in tandem with a rapid rise in infected individuals, at an unprecedented scale. Owing to this impact, there was a sharp increase in demand for common cold-related formulations, including formulations to treat fever and tonsillitis.

COVID-19 Impact (2)



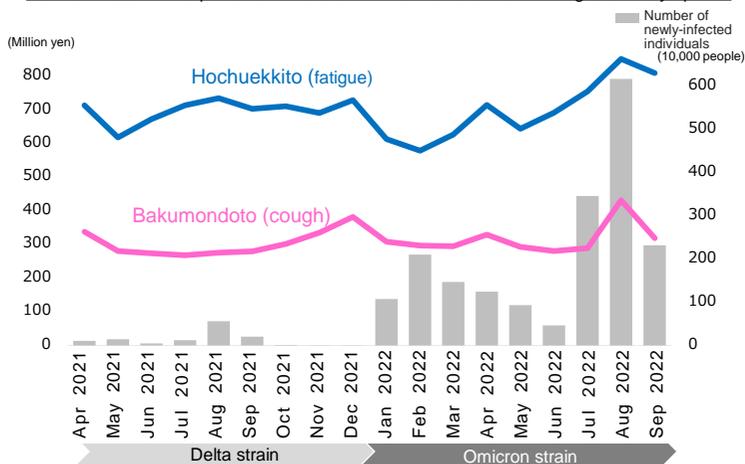
Growth in sales of formulations related to Long-COVID symptoms due to an increase in the number of people infected with the omicron strain

Differences in Omicron and Delta strain symptoms



Tokyo IDC After-Effect Task Force
Based on analyzed data from consultations with the COVID After-effect consultation desk at Tokyo metropolitan and public hospitals

Number of COVID-19 patients and sales of formulations related to Long-COVID symptoms



Bar graph: Ministry of Health, Labour and Welfare open data; Number of new individuals testing positive (by day)
Line graph: Actual sales (Invoice price: Tsumura data)

The third factor is impact from an increase in the number of long-COVID-19 patients, in other word individuals suffering from aftereffects.

As shown in the graph on the left, the Omicron variant replaced the Delta strain. Owing to this, there is an increase in the ratio of individuals with ongoing coughs and fatigue symptoms after infection.

Meanwhile, as shown in the graph on the right, Bakumondoto is being prescribed for coughs and Hochuekkito for fatigue. In comparison with the same period, a year earlier, this shows a very high level of growth.

Based on monthly sales trends and recent demand trends by formulation for the past several years, we formulated production plans using the demand forecast system.

In FY 2022, owing to the three particular factors, we are in a situation where we can address a production increase by reorganizing production plans several times to temporarily deal with hikes in demand.

We are disseminating on seasonal formulations and formulations with high demand mainly through email magazines and via videos on our Medical Site. According to our analysis, the establishment of this type of environment, which facilitates the obtaining of information on Kampo formulations, is one factor driving the expansion of prescription opportunities.

Impact on Shipments of Intense Heat and COVID-19

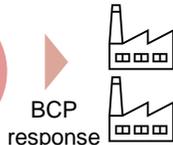


April



Shanghai lockdown

May



BCP
response

Domestic plants
Substitute production

June



Intense heat

July



COVID-19
Seventh wave

August

Response

- Boost production capacity for seasonal formulations, common cold-related formulations
- Change production plans to boost capacity

➔ **Limited shipments for some Kampo formulations**



Forecast

- Ongoing demand for common cold-related Kampo formulations owing to increase in Long-COVID patients
- Increase in demand for common cold-related Kampo formulations owing to seasonal influenza trends and the re-expansion of COVID-19

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Operations at the Shanghai Tsumura Plant were halted due to impact from the Shanghai lockdown over the two months of April and May 2022. In light of this, in accordance with our business continuity plan, we reorganizes our production plan by alternating production to plants in Japan. Consequently, we were able to maintain our supply system and address the 6.9% year-on-year rise in demand.

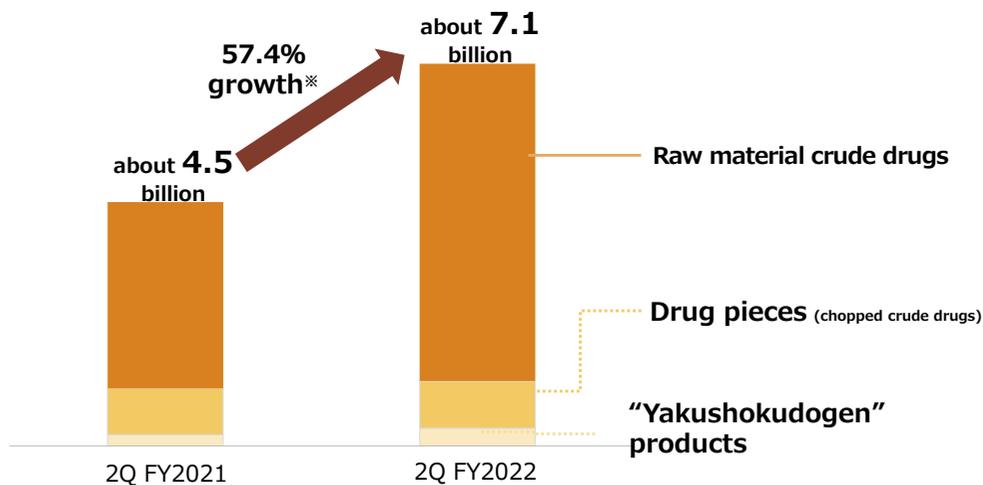
Furthermore, given the overlapping of the three factors I explained, there was a rapid increase in one-off orders which led to short supply of specific formulations. Accordingly, we implemented a limited shipment of 28 items from August 29, 2022, reflecting our goal to avoid the risk of running out of inventory due to an uneven distribution of retail inventory.

We note limited shipments of two items, one of them being Seishoekkito, were lifted on October 3, 2022. Furthermore, limited shipments of 3 items were lifted on November 4, 2022.

We will continue to pour energies into sequentially lifting shipment restrictions by taking into account our production plans and demand trends.

In addition, we plan to further strengthen our supply system to deal with cases in which actual demand exceeds forecasts.

Crude drug platform: Achieved the 1H plan owing to an expansion in raw material crude drug sales



Next is trends at the China Business.

In the first quarter, due to lockdowns triggered by COVID-19 some sales activities and shipments for raw material crude drugs, which account for a high ratio of sales, were delayed versus plans. However, in the second quarter, we cleared our plan for the first half.

The growth rate was 57.4% year-on-year.

That being said, regarding M&A in the formulation platform business, we are continuing negotiations to sign contracts for several deals.

We are not at a stage where I can comment. I will report when possible.

01

Second Quarter Business Results for FY 2022

02

Initiatives and Progress for
Domestic Business and China Business

03

FY 2022 Earnings Forecast

Thirdly, I will now explain our earnings forecast for fiscal 2022.

FY 2022 Earnings Forecast



【Million yen】	FY 2021 Results	FY 2022 Forecast	YoY	
			Amount	Change
Net sales	129,546	138,500	+ 8,953	+ 6.9%
Domestic business	–	124,300	–	–
China business	–	14,200	–	–
Operating Profit	22,376	20,800	(1,576)	(7.0)%
Domestic business	–	21,200	–	–
China business	–	(400)	–	–
Ordinary Profit	25,904	21,200	(4,704)	(18.2)%
Profit attributable to owners of parent	18,836	15,000	(3,836)	(20.4)%
Dividends (per share)	64 yen	64 yen		
EPS	246.2 yen	196.1 yen		
ROE	8.2 %	6.0 %		

(Note) Foreign exchange impact (non-operating profit) is not factored into the earnings forecast as it is difficult to make reasonable calculations given trends in the foreign exchange market.

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Our earnings forecast remains unchanged from our initial forecast. We anticipate net sales of 138.5 billion yen, operating profit of 20.8 billion yen, ordinary profit of 21.2 billion yen, profit attributable to owners of the parent of 15.0 billion yen, and an ROE of 6.0%.

As I explained, this reflects impact from the repeated reworking of our production plans.

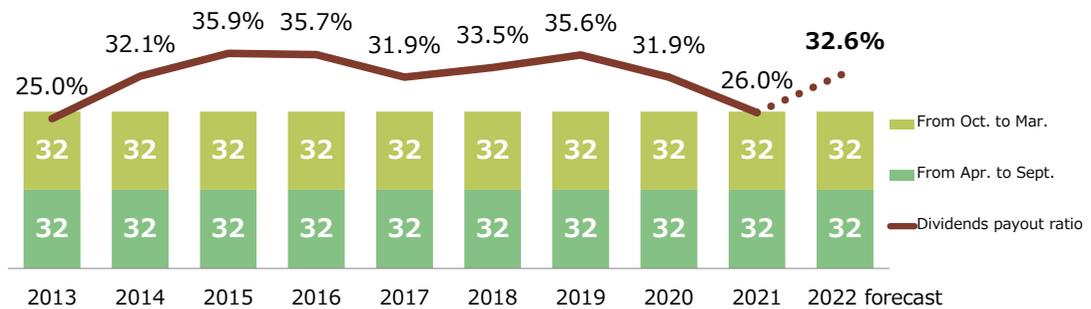
Our earnings forecast for fiscal 2022 is in line with the forecast we released at the start of the fiscal year.

Shareholder Returns



Policy

- We aim to improve our corporate value by continually expanding domestic business and through growth investments in the China business, and by building foundations. Accordingly, we plan to implement stable dividends, taking into account factors such as medium/long-term profit levels and cash flow conditions.



Note: The FY 2022 year-end dividend and payout ratio (forecast) are an estimate based on the assumption that the dividend resolution is approved at the 87th Ordinary General Meeting of Shareholders.

Lastly, I will cover our shareholder returns.

In addition to a continuing expansion of the Kampo business in Japan, we plan to execute growth investments in particular, including carrying out M&A deals in the China Business. We also plan to take steps to improve corporate value through the strengthening of the foundation of the China Business.

It is our policy to implement stable dividends, taking into account medium/long-term profit levels and cash flow trends.

We ask for your continued support.

Second Quarter Business Results for Fiscal 2022

—R&D Direction and Recent Progress, etc.—

November 7, 2022

Executive Officer, Head of Kampo Research & Development Division / International
Pharmaceutical Research & Development Division

Akihito Konda

**“Further” Build Foundation for Standard Treatments
—Expand Existing Research and Dig Deep—**



【Geriatric Health】

- Conduct research related to frailty based on more detailed types, including from social, physical and mental aspects
- Conduct research pertaining to behavioral and psychological symptoms of dementia (BPSD), including mild cognitive impairment, and Stages I, II, III, etc.
- Implement the full-fledged building of evidence in the circulatory domain, including congestive heart failure and cardio-renal related diseases

【Cancer】

- Conduct research related to support for cancer survivorship
(Provide employment support assistance from social, physical and mental viewpoints)

【Women’s Health】

“Implement research that is close-knit with the life stages of women”

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“Geriatric health,” “cancer” and “women’s health” are important domains at Tsumura.

Among these three important domains, today I would like to take advantage of the rising momentum in promoting the participation of women in society and the workplace, and focus on “women’s health,” a topic we have touched upon time and again in our medium-term management plan.

01

**Women's Health Initiatives at Tsumura (Origin of Founding)
& Confirmation of Changes in the External Environment**

02

**"Further" Build Foundation for Standard Treatments
Research Results Thus Far & Research Pipeline**

03

**Propose New Treatment Methods (Tackling Personalized Medicine)
Tackle Presymptomatic Diseases**

*Points to consider

This presentations contains a plethora of information related to matters such as pharmaceuticals. This information is not for the purpose of solicitation or advertising.

First, I will confirm activities in the domain of women's health at Tsumura, our roots in the domain at the time of the company's founding and changes in the external environment.

Tsumura has Been a Company that is Close-knit to Women's Health Since its Foundation



Jusha Tsumura (founder of Tsumura Juntendo, the predecessor to modern-day Tsumura) improved a drug for women's disorders that was passed down through the Fujimura family, his mother's family
Tsumura Juntendo launched the drug, Chujoto in 1893 in Nihonbashi, Tokyo

We aim to assist in preconception and conception care that is close-knit to the health of women throughout their lives!

*Preconception care: Women and couples face their lives and health while considering a future pregnancy

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Through Chujoto, a medicine for women, Tsumura founder Jusha Tsumura aimed to create a significant business that was a part of society's public interest while keeping close to women. Given this historical background, the women's domain is positioned as one of the first and foremost areas at Tsumura.

As a part of the DNA of Tsumura employees, it is our desire to aid in the health of women throughout their lifetime, including providing care before and after pregnancy, such as "preconception and conception care."

Transformation in the Promotion of Women's Activities



2015

- Act on the Promotion of Female Participation and Career Advancement in the Workplace established

2021

- Act on Childcare Leave, Caregiver Leave, and Other Measures for the Welfare of Workers Caring for Children or Other Family Members
- Infertility prevention and support package
- Femtech nominated for the “new word & buzzword of the year award”
- “Femtech promotion” included in the basic policy 2021

2022

- Infertility treatment covered by insurance
- Basic policy 2022 established
- Declaration on the Promotion of Sexual and Reproductive Health and Rights: Japan Society of Obstetrics and Gynecology

- ◆ Measures against population decline
- ◆ Women's employment assistance policy
- ◆ Femtech gains momentum

Work conditions for Japanese females

1990s: M-curve in the employment rate; rate drops for women in their late 20s and 30s and rises once again from those 40 and older

2000s: M-curve in the employment rate become gradual

In and after 2020: L-curve for the regular employment rate peaked for women in their late 20s; Declines after pregnancy → **Need to improve the continued employment rate**

Femtech market forecast to reach about JPY2 trillion/year by 2025



Source: Prepared by Tsumura, having modified <https://www.femtech-projects.jp/> ("Femtech: Creating a new 'matter of course' for a society where it is comfortable for women to work" (METI)).

*Femtech = Female + Technology

Femtech is a coined word that combines "Female" and "Technology." Products and services that solve women's health issues with technology.

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Looking back at the changes in the promotion of women's participation in society and the workplace, the strengthening of measures, including a support package to prevent infertility and the expansion of infertility treatment, can be interpreted as a part of measures to address the decline in Japan's population.

In addition, measures to aid the employment of women have become pronounced. Furthermore, I believe that opportunities in femtech, in other words products and services that solve women's health issues with technology, are growing.

01

Women's Health Initiatives at Tsumura (Origin of Founding) & Confirmation of Changes in the External Environment

02

**“Further” Build Foundation for Standard Treatments
Research Results Thus Far & Research Pipeline**

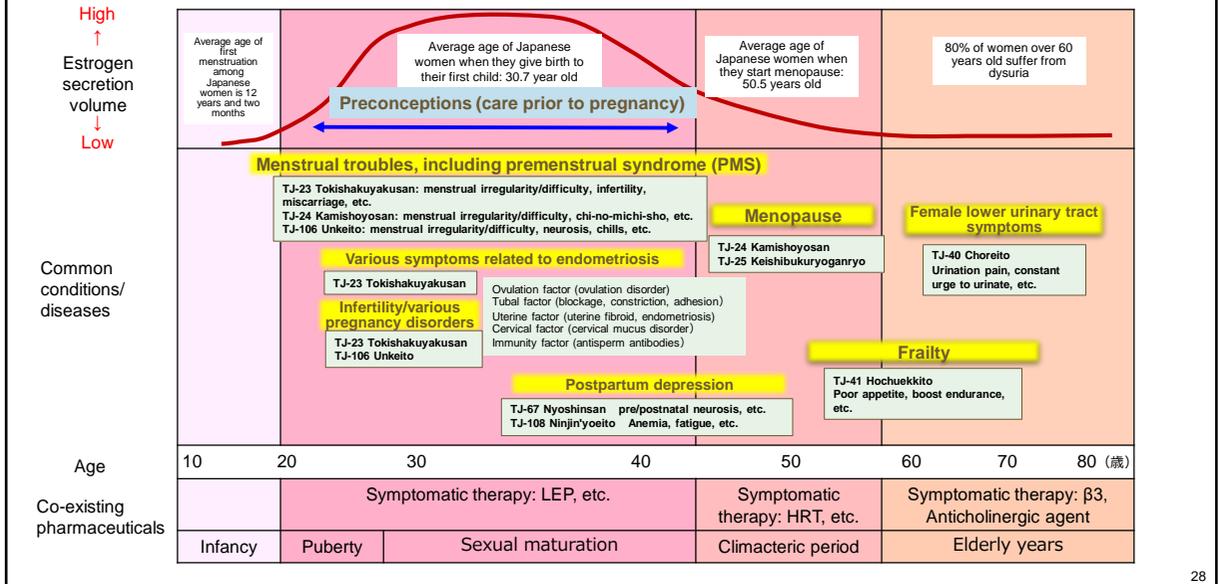
03

Propose New Treatment Methods (Tackling Personalized Medicine)
Tackle Presymptomatic Diseases

*Points to consider

This presentations contains a plethora of information related to matters such as pharmaceuticals. This information is not for the purpose of solicitation or advertising.

Taking this background into account, going forward today I will unfold research results in the women's health domain at Tsumura and the research pipeline.



First, the building of evidence and research in the domain of women’s health is an extremely sensitive area given its correlation to giving birth. In particular, it is difficult to delve into R&D related to diseases and complaints before and after pregnancy. Consequently, many companies are concerned about how to move forward.

Amid this backdrop, the efficacy of Kampo is being declared in the stabilization of fetuses. Kampo is actually is being used in the frontlines of medical scenes, and its use is cumulatively rising. In light of this, a vast population of female subjects is being leveraged for application in epidemiological research.

When conducting epidemiological research, recently there has been a great deal of use of realworld data, in other words medical big data. From this perspective, Kampo formulations are one drug that can be used in this research.

At present, we are collaborating with research institutes at universities and moving forward with several epidemiological research studies that utilize medical big data.

“Benefit of Kampo medicine on birthrates among women with a history of recurrent pregnancy loss (including habitual abortion, etc.)

Goal: Examine efficacy of Kampo medicine for overall childbirth rate among patients with a history of recurrent pregnancy loss (habitual abortion)

Target: Extract women diagnosed with recurrent pregnancy loss from January 2005 to August 2018 (5,517 women)
 Analysis of childbirth rate after 2 years, after 4 years (Kampo usage rate: 29.9%; percentage using Tokishakuyakusan: 60%, other Kampo 40%)

	Kampo medicine (1,651)	Non-Kampo medicine (3,302)
Childbirth rate after 2 years	15.7 %	11.2 %
Childbirth rate after 4 years	22.6 %	17.8 %

Childbirth rate comparison during tracking period: P = 0.0003
 log-rank test

Reviews of medical big data have indicated that Kampo formulations, including Tokishakuyakusan, possibly contribute to an improvement in birthrates among women with a history of recurrent pregnancy loss

Prepared by Tsumura based on International of Journal of Gynecology & Obstetrics153(3) 489-495 (2021) data

I will now introduce one example. This case involves the birth rate of patients experiencing recurrent pregnancy loss, mainly those experiencing habitual miscarriages, and an examination of the efficacy of Kampo. This study was conducted from January 2005 to August 2018 and involved 5,517 women that were diagnosed as experiencing recurrent pregnancy loss. We analyzed the childbirth rate after 2 years and after 4 years, the general evaluation period. As reference, the usage rate for Kampo was 29.9%, of which around 60% were administered Tokishakuyakusan.

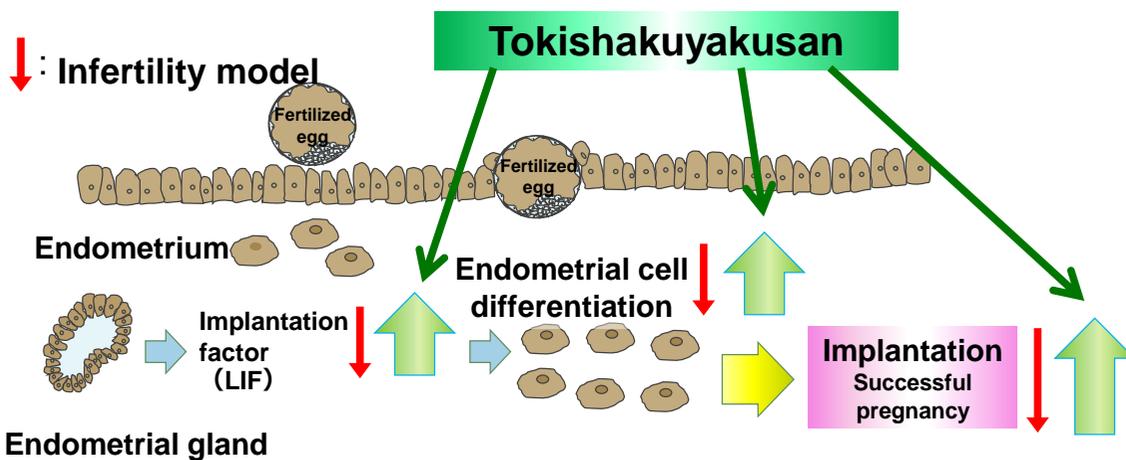
In a comparison of the group that used Kampo versus the group that did not during the tracking period, the results showed that the childbirth rate for the group using Kampo was 15.7%, two years after the start of treatments, and 22.6% after four years from the start of treatments. This showed a significantly high birth rate.

Naturally, this is merely the result of research using medical big data therefore it is not all-encompassing. However, this does indicate the possibility that Kampo, including Tokishakuyakusan, contributed to an improvement in birth rates. In light of this, we plan to continue to build evidence from various perspectives.

How Tokishakuyakusan works for the rat infertility model

1. Adhesion 2. Infiltration 3. Endometrial cell differentiation

Pregnancy



Prepared by Tsumura based on J Ethnopharmacol. 2021, 265:113288 data

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Actually, one very interesting point is that basic research also shows Kampo had a positive impact on birth rates as if to back Kampo research reports based on recent medical big data. As a start, we are seeing results that indicate possibilities that support this.

This shows Tokishakuyakusan's improvement mechanism has on the rat infertility model.

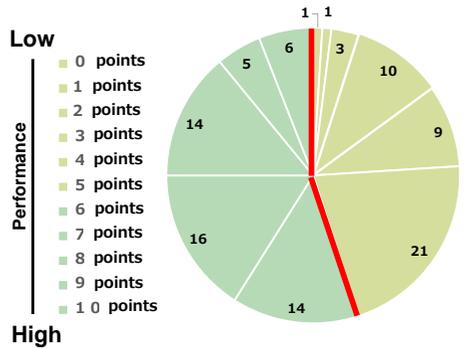
The rat infertility model, like the red arrow, shows a decrease in the number of necessary elements (LIF) for implanting an egg into the endometrial membrane. The differentiation of the endometrial cells does not advance and therefore the patient cannot get pregnant.

Meanwhile, it was found that the administration of Tokishakuyakusan increases the number of necessary elements (LIF) for implantation, enhances the differentiation of endometrial cells and aids in creating an environment conducive for pregnancy.

Naturally, not everything can be discussed with only this basic research. Despite the desire to have children, there are people that have difficulty becoming pregnant. It is our mission to see if Kampo can help these people. Keeping this in mind, it is our goal to continue to further build more in-depth evidence.

In comparison with healthy conditions, work performance for around half of females drops to below 50% due to premenstrual syndrome or catamenial symptoms

Performance ratio for less than half of working females is 45%



Assuming the score for working in a healthy condition is 10 points, self-assessment when experiencing premenstrual syndrome or catamenial symptoms (n=2000)

Source: Figures modified by Tsumura based on data from Survey on Health Promotion and Working Women 2018, Health and Global Policy Institute (HGPI)
<https://hgpi.org/wp-content/uploads/1b0a5e05061baa3441756a25b2a4786c.pdf> (revised)

Earlier, I touched upon measures to support employment for women, along with measures to address the population decline in Japan amid changes in the promotion of the participation of women in society and the workplace.

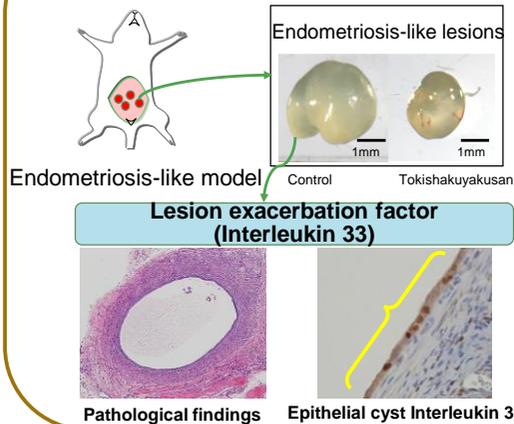
According to a report by the Health and Global Policy Institute, it was surmised that nearly 50% of women suffer a decline in performance of around half of regular levels due to PMS and paramenstrual symptoms.

On top of this, according to a survey by The Japan Society of Obstetrics and Gynecology, it is estimated that the annual work loss (for example, absence, a decline in workload or work efficiency, etc.) due to menstrual symptoms in Japan is around 490 billion yen.

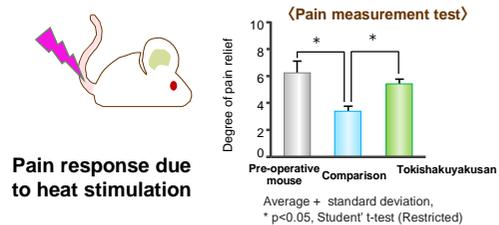
Efficacy of Tokishakuyakusan on lesions and pain in the endometriosis-like model

★ In 2018-2019, number of downloads is in the top 10% of papers selected

Suppress endometriosis-like lesions



Alleviate pain



Tokishakuyakusan: Mechanism of Action

- Action on lesion exacerbation factor
Inhibit interleukin 33 mRNA
- Action on the source of pain
Inhibit cyclooxygenase 2 mRNA

Prepared by Tsumura based on Am J Reprod Immunol. 2019 Nov;82(5):e13182 data

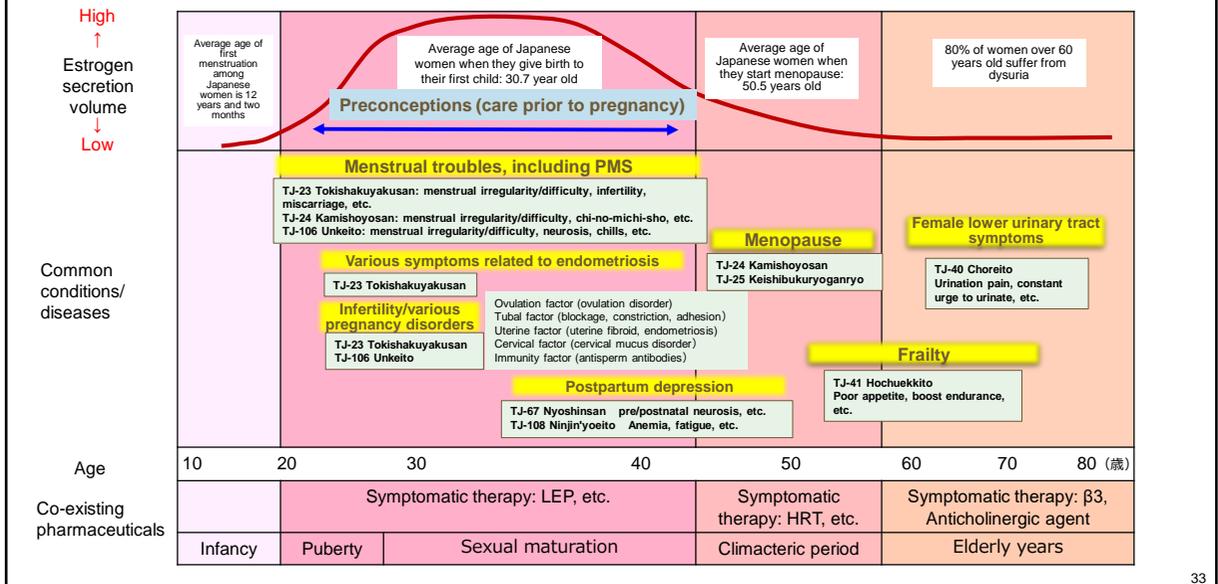
32

Amid these conditions, we collaborated with university research institutions and conducted basic research on the effects of Tokishakuyakusan on lesions and pain using an endometriosis-like model.

The results showed shrinkage in endometriosis-like lesions owing to the use of Tokishakuyakusan, as shown in the picture on the upper left, and the suppression of pain, a major symptom of endometriosis, as shown in the graph on the upper right. The picture at the lower left shows the histopathology of an endometriosis-like lesion. This study aims to prove a mitigation in pain owing to a suppression of exacerbating factors.

Based on these results, the mechanism of action for Tokishakuyakusan potentially has the effect of suppressing exacerbating factors for endometriosis. We are starting to take action to conduct further examinations.

It should be noted that this research paper was selected for the front page of the November 2019 edition of the American Society for Reproductive Medicine magazine. This research was also among the top 10% of selected downloads in 2018-2019.



In this manner, we are building a research pipeline that is close-knit to the life stages of women by working with doctors nationwide to co-create value. In other words, we are in the process of building a research pipeline in accordance with our “value co-creation” spirit.

These participating doctors are also becoming keener about prescribing these Kampo medicines by taking it upon themselves to partake in the creation of added value for Kampo. We look forward to having long ties with these doctors.

We aim to leverage our mutual strengths with many doctors we work with to conduct epidemiological research using medical big data, basic research rich with variations, and various clinical research originating from case reports. Interconnected with this, we plan to create a more robust research pipeline that is unique to Tsumura by exploring optimal solutions.

01

Women's Health Initiatives at Tsumura (Origin of Founding) & Confirmation of Changes in the External Environment

02

"Further" Build Foundation for Standard Treatments
Research Results Thus Far & Research Pipeline

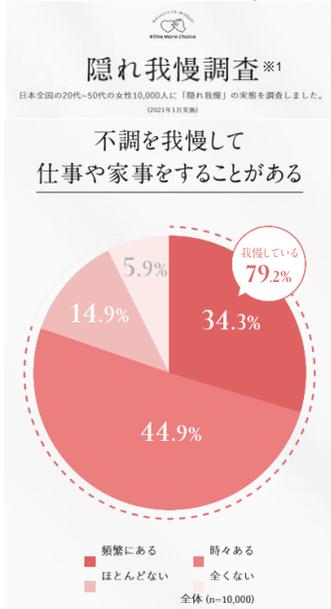
03

Propose New Treatment Methods (Tackling Personalized Medicine)
Tackle Presymptomatic Diseases

*Points to consider

This presentations contains a plethora of information related to matters such as pharmaceuticals. This information is not for the purpose of solicitation or advertising.

Next, I will discuss proposals for new treatment methods (initiatives to realize personalized medicine) and the challenges we are undertaking to tackle pre-symptomatic diseases.



Top 10 commonly experience disorders (Multiple choice)

Overall (n=1,000)		
1st	Fatigue/s sluggishness	66.0
2nd	Chill	48.6
3rd	Frustration	46.4
4th	Damaged skin (acne, eczema, etc.), blemishes	41.5
5th	Headaches	40.9
6th	Anxiety	40.0
7th	PMS※2	39.1
8th	Lower back pain	37.9
9th	Difficulty falling asleep, wake up feeling poorly, light sleeper, insomnia	37.9
10th	Menstrual cramps, irregular menstruation, abdominal pains pre/post menstruation	37.6

*1: Fact-finding survey on concealing pain (March 3, 2021, implemented by Tsumura)
<https://www.tsumura.co.jp/newsroom/topics/2021/03031750.html>

*2: Poor physical condition due to menstrual cycle (frustration, fatigue, headache, etc.)

In March 2021, Tsumura conducted a “fact-finding survey on concealing pain” targeting 10,000 women in their 20s-50s.

Consequently, we found that around 80% of the women surveyed endured poor health conditions while doing household tasks or work. The poor health conditions regularly experienced by women “concealing pain” were feelings of being “tired/lethargic” (No. 1), being “cold/chilly” (No. 2) and feeling “irritated” (No. 3).

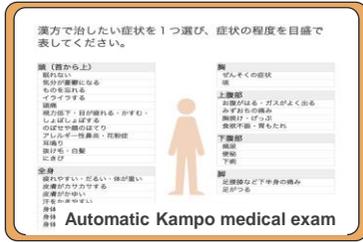
Of these disorders, we focused on leading research related to being cold/chilly. We found there was a correlation with recurrent pregnancy loss, including habitual miscarriages. The percentage of women that are regularly cold/chilly that experience premature births is reported to be 3.4-times. In light of this, being regularly “cold/chilly” can be interpreted as “a disease risk factor.”

Furthermore, there were occasional reports citing being “cold/chilly” as a “risk factor for complications” and “frequent complaints by patients that are aware of being cold/chilly.” We are focusing on this as one of our research themes.

1st Medium-Term Management Plan
(2022~2024)

Research phase

Develop a questionnaire system
(Truth-fake/**chills & fever**/qi, blood, fluid)



Automatic Kampo medical exam

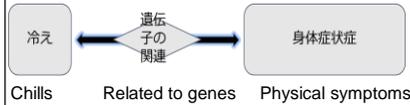
Expand medical treatment data /
improve forecast precision

2nd Medium-Term Management Plan
(2025~2027)

Development phase

Multi-faceted research,
pivoting around **chills**, etc. to
personalize medicine

Research to clarify genetic
background, mechanism of
chills and correlation

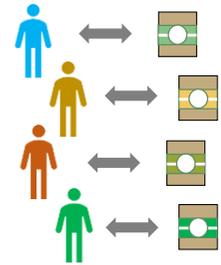


*Genetic testing + blood flow /
intestinal bacterial flora

3rd Medium-Term Management Plan
(2028~2031)

Social implementation

Validation testing
for formulation
selection



Earlier I touched upon the rising opportunities for femtech, along with my introduction of measures to address Japan's shrinking population and to support employment for women, amid changes in the promotion of the participation of women in society and the workplace.

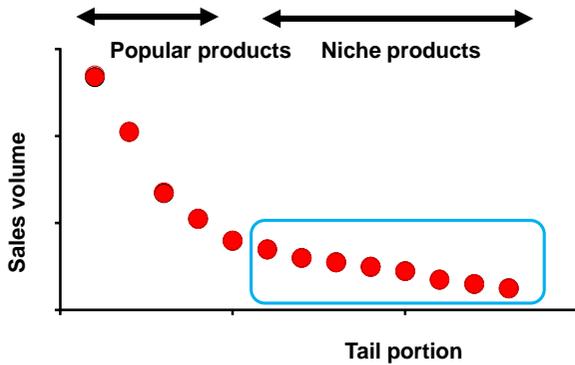
Verbally quoting the results of a survey implemented the other day by Cross Marketing Inc., the height of recognition of and expectations in femtech appears to be pronounced, particularly among women in their 20s and 30s, the generation that will uphold the future.

Factoring in these conditions, we are collaborating with university research institutions to carry out research originating from an emphasis on the social implementation of a Kampo exam support system while also focusing on indefinite complaints, including women feeling cold/chilly.

Recently, while looking at the correlation of medical questions asked in Western medicine and Kampo medicine, we are at the stage of planning improvements to the predictive precision of a Kampo exam support system, including hot and cold flashes in women.

Kampo is a “Long Tail Drug”

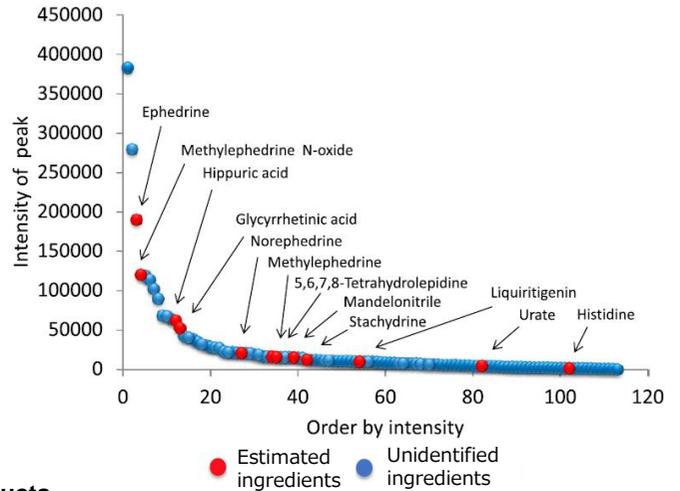
Calculating the tail portion, comes to a considerable number...



<Reference>

Business model for lineup of omni-directional products

Profile for specifically detected ingredients in plasma after administration of Kampo medicines



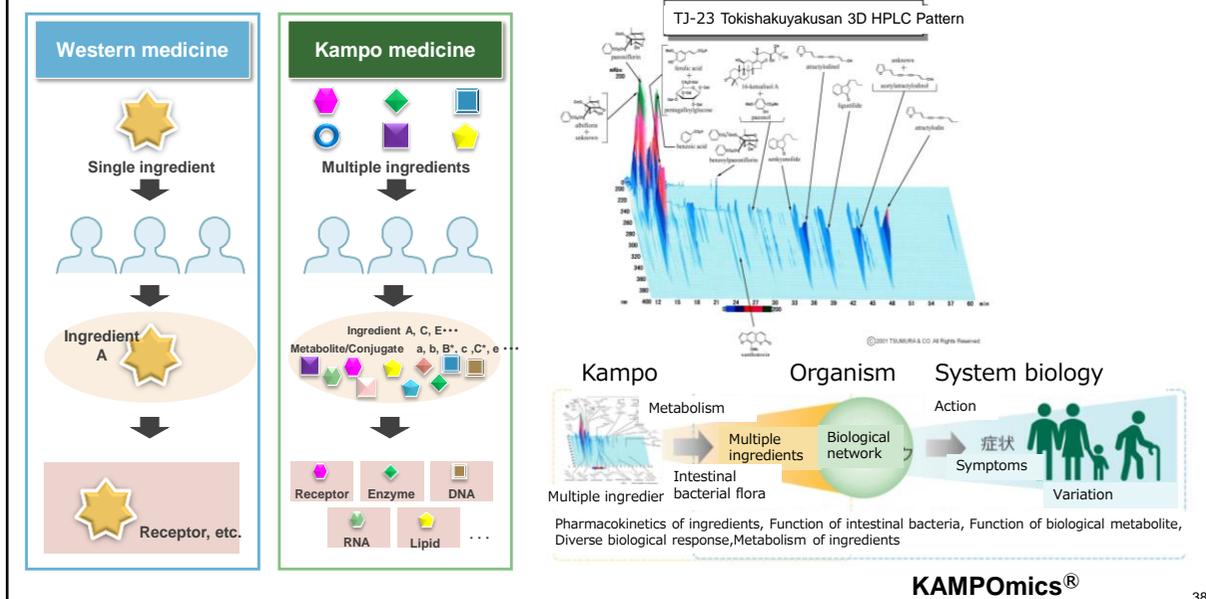
Prepared by Tsumura based on NPJ Syst Biol Appl. 2017, 3, 32 data

There are doctors that call Kampo a “long-tail drug.” This is due to the exertion of synergistic effects owing to the use of aggregate substances.

For instance, in a business model that strengthens the lineup of omnidirectional-type products, even if only a few products are sold in a niche market, given that this can add up to a fairly large number of products being sold, a product lineup should including many products from popular to niche items, and a company should employ a long-tail strategy to maintain the strength of this business model.

Looking at the graph on the left from this perspective, we profiled, in collaboration with a research institution, the “specific detection of components in plasma” after administration of Kampo. The estimated components are in red and the unidentified components are in blue. We are aiming to use the development of a new market leveraging the special characteristics of Kampo, which is a multicomponent drug, as a stepping stone for example to develop the “pre-symptomatic disease” market.

“A Chill Can Lead to All Kinds of Diseases”: Treating a Chill as a “Presymptomatic Disease,” Pursue Clues to a Solution in KAMPOmics



In Japanese, “being cold is the source of all types of diseases” is a frequently used saying. We view indefinite complaints, including “coldness” among women, as a pre-symptomatic disease. We plan to utilize KAMPOmics, an analysis technology for multicomponent drugs, a strength of Tsumura, while exploring clues for problem-solving.

For instance, we are accruing data on changes in pharmacokinetics within the body, which differs between individuals. While employing technologies such as genetic polymorphism analysis, we plan to examine complaints of feeling cold on a genetic level by conducting further R&D into multicomponent drugs and improving optimal matching technology for personalized medicine.

This is an area that is difficult to implement in Western medicine which uses single-substance drugs. Conversely, this can be done owing to Kampo, which is a multicomponent drug. This is a business that Tsumura has been engaged in for many years that is why this is a matter that is possible for Tsumura to handle.

During our ten-year plan, we aim not to restrict the experience of Kampo specialists accumulated thus far to the realm of experience or oral traditions, but look to carry out various exploratory research that will contribute to the development of a Kampo exam support system, execute verification research and social implementation. Consequently, more than before, we plan to use this to support exams conducted by a broad range of many doctors. Finally, it is our goal to do our best to improve the future value of Tsumura by leveraging cutting-edge technology to be close-knit to the problems of each individual while further realizing the beliefs behind our founding.

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Cautionary items regarding forecasts

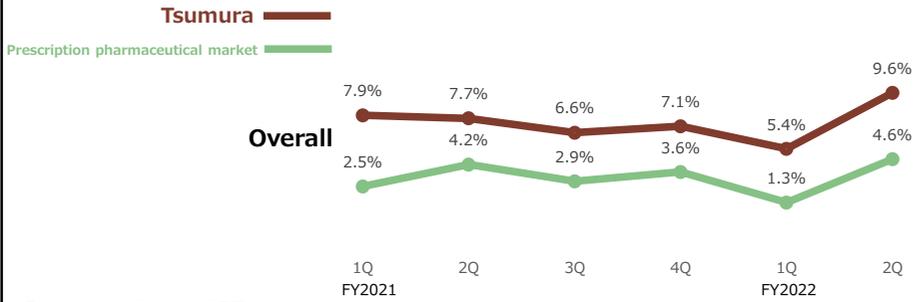
- The materials and information provided in this presentation contain so-called forward-looking statements. Readers should be aware that the realization of these statements can be affected by a variety of risks and uncertainties and that actual results could differ significantly.
- Changes in Japan or other foreign countries related to healthcare insurance systems or regulations set by medical treatment authorities on drug prices or other aspects of healthcare or in interest and foreign exchange rates could negatively impact the Company's performance or financial position.
- In the unlikely event that sales of the Company's core products currently on the market be halted or should sales substantially decline due to a defect, unforeseen side effect or some other factor, there could be a major impact on the Company's performance or financial position.

Appendix

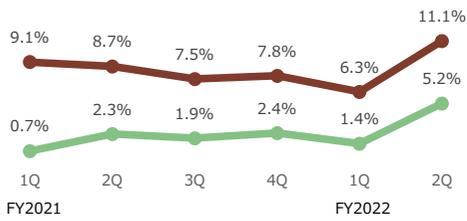
Comparison with the Prescription Pharmaceutical Market



(YoY/drug price basis)



General clinics (GP)



Hospital market (HP)



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COVID-19 impact

(shipment volume basis : growth rate)

✓ Increase reflecting changes in living environment ↗

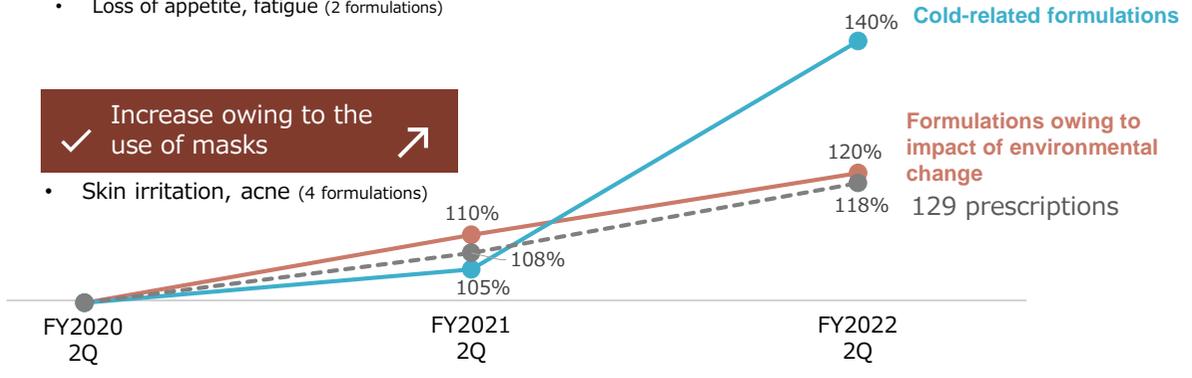
- Anxiety/insomnia (6 formulations)
- Dizziness (2 formulations)
- Loss of appetite, fatigue (2 formulations)

✓ Increase owing to omicron strain ↗

- Common cold, influenza and hay fever (13 formulations)

✓ Increase owing to the use of masks ↗

- Skin irritation, acne (4 formulations)



Number of Doctors that Write 10 or More Kampo Prescriptions



The number of doctors that write 10 or more Kampo prescriptions increased around 10,000 doctors, a ratio of 29%

