



DATA BOOK **2022**

Japan Pharmaceutical
Manufactures Association

Forewords

DATA BOOK organizes the statistics on pharmaceutical industries both in Japan and around the world. Those contain such figures as yearly transition of a variety of data such as demographic changes, national healthcare expenditure, and social security payments. Japan Pharmaceutical Manufacturers Association (JPMA) has also summarized pharmaceutical industries' overall pictures including the outcome of our research to the member companies, delivering the data collected from a variety of different angles: environment of pharmaceutical industries or comparison with other industries, current situations of production of medicinal drugs, factors of expansion to non-Japanese countries, the latest situation of research and development, or trends in approval for new products. With the exception of some statistical data from government or other public agency sources, the latest data in this issue are for FY2020.

We would be grateful if this is utilized as a tool for promotion of understanding about pharmaceutical industries, making medical care policies, or planning strategies for pharmaceutical industries. In addition, a part of listed data has a limit on secondary use. Please refer to the contents of "Secondary Use of Data in DATA BOOK" when quoting data.

Issuance of the new edition of the DATA BOOK owes so much to cooperation offered by a wide variety of relevant organizations: a variety of ministries including Ministry of Health, Labour and Welfare at the top, non-Japanese pharmaceutical manufacturers' associations, research agencies, or member companies of JPMA. We here would like to appreciate all their effort and cooperation.

March 4th, 2022

Japan Pharmaceutical Manufacturers Association
Office of Pharmaceutical Industry Research

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A. Pharmaceutical Industry Outlook

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Number of Pharmaceutical Manufacturers (Japan)

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(Unit: No. of Companies)

Fiscal Year	Total	Ethical Drug Manufacturers		OTC Drug Manufacturers	Other Manufacturers	Manufacturers with NHI Price listed Drugs	JPMA Members
			Generic Drug Manufacturers				
1975	1,359	330	—	666	363	410	71
1980	1,312	368	—	625	319	—	80
1985	1,369	435	—	622	312	439	81
1990	1,496	433	—	588	475	459	86
1995	1,512	465	—	524	523	475	89
1999	1,151	476	71	476	199	479	82
2000	1,123	478	66	449	196	420	80
2001	1,104	471	71	443	190	444	79
2002	1,068	474	75	418	176	434	79
2003	1,062	474	71	416	172	437	79
2004	1,026	488	69	411	127	—	79
2005	972	477	72	387	108	415	75
2006 *	364	121	25	126	117	403	74
2007 *	380	104	22	156	120	403	70
2008 *	351	117	64	158	76	378	70
2009 *	376	101	18	160	115	357	69
2010 *	370	107	27	143	120	358	68
2011 *	341	100	23	128	113	358	69
2012 *	349	101	22	136	112	354	72
2013 *	327	110	31	118	99	349	70
2014 *	310	113	34	111	86	346	72
2015 *	305	115	37	108	82	354	72
2016 *	294	109	32	98	87	355	72
2017 *	298	107	33	105	86	353	72
2018 *	299	100	35	101	98	345	72
2019 *	286	104	39	93	89	342	73

Note :

The survey results featured in the Report of the Pharmaceutical Industry Survey are cited for some data.

The surveys up to FY2005 targeted all the companies whose head offices (1) manufacture and sell pharmaceuticals, (2) manufacture drugs, and (3) import and sell drugs, as of the end of each business year (March 31), based on a license for the Manufacture and Sale of Drugs, the Manufacture of Drugs, and the Import and Sale of Drugs, under the Pharmaceutical Affairs Law.

Among the companies, having obtained a pharmaceutical manufacturing and marketing license under the Pharmaceutical Affairs Law as of the end of each business year (March 31) that has been partially revised as the Law on Securing Quality, Efficacy and Safety of Products including Pharmaceuticals and Medical Devices(November, 2013), the surveys since FY2006 (*) targeted the member companies under the fifteen industrial bodies affiliated with the Federation of Pharmaceutical Manufacturers' Associations of Japan.

Source :

Ministry of Health, Labour and Welfare, Statistics on Pharmaceutical and Medical Device Industry

<https://www.e-stat.go.jp/stat-search/files?page=1&toukei=00450152&tstat=000001034412>

Manufacturers with NHI Price listed Drugs: Jiho, NHI Drug Price Directory by Therapeutic Category (April or August issues of each year)

Number of Pharmaceutical Manufacturers by Number of Employees (Japan) A-1-2

Fiscal Year	Number of Pharmaceutical Manufacturers								Share (%)							
	-10 employees	11-50	51-100	101-300	301-1000	1,001-3,000	Over 3,000	Total	-10 employees	11-50	51-100	101-300	301-1000	1,001-3,000	Over 3,000	Total
1990	460	507	167	215	105	79	34	1,567	29.4	32.4	10.7	13.7	6.7	5.0	2.2	100.0
1995	433	513	189	277	135	86	58	1,691	25.6	30.3	11.2	16.4	8.0	5.1	3.4	100.0
2000	299	460	171	219	120	78	49	1,396	21.4	33.0	12.2	15.7	8.6	5.6	3.5	100.0
2001	295	461	163	231	117	75	49	1,391	21.2	33.1	11.7	16.6	8.4	5.4	3.5	100.0
2002	307	433	163	211	111	80	42	1,347	22.8	32.1	12.1	15.7	8.2	5.9	3.1	100.0
2003	287	436	169	215	118	76	41	1,342	21.4	32.5	12.6	16.0	8.8	5.7	3.1	100.0
2004†	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2005	252	399	155	202	119	64	40	1,231	20.5	32.4	12.6	16.4	9.7	5.2	3.2	100.0
2006*	18	77	48	91	57	49	31	371	4.9	20.8	12.9	24.5	15.4	13.2	8.4	100.0
2007*	41	90	43	82	58	45	30	389	10.5	23.1	11.1	21.1	14.9	11.6	7.7	100.0
2008*	37	85	34	79	56	43	27	361	10.2	23.5	9.4	21.9	15.5	11.9	7.5	100.0
2009*	32	100	37	95	57	41	30	392	8.2	25.5	9.4	24.2	14.5	10.5	7.7	100.0
2010*	38	83	34	84	65	46	27	377	10.1	22.0	9.0	22.3	17.2	12.2	7.2	100.0
2011*	30	80	31	74	61	47	30	353	8.5	22.7	8.8	21.0	17.3	13.3	8.5	100.0
2012*	32	76	34	73	60	50	29	354	9.0	21.5	9.6	20.6	16.9	14.1	8.2	100.0
2013*	28	72	33	70	59	46	29	337	8.3	21.4	9.8	20.8	17.5	13.6	8.6	100.0
2014*	23	67	28	72	70	44	32	336	6.8	19.9	8.3	21.4	20.8	13.1	9.5	100.0
2015*	24	61	28	72	70	44	29	328	7.3	18.6	8.5	22.0	21.3	13.4	8.8	100.0
2016*	19	55	31	72	68	41	30	316	6.0	17.4	9.8	22.8	21.5	13.0	9.5	100.0
2017*	22	60	33	68	65	45	28	321	6.9	18.7	10.3	21.2	20.2	14.0	8.7	100.0
2018*	20	51	29	74	73	45	26	318	6.3	16.0	9.1	23.3	23.0	14.2	8.2	100.0
2019*	24	46	33	64	68	42	29	306	7.8	15.0	10.8	20.9	22.2	13.7	9.5	100.0
2020 JPMA (57 Members)	—	—	—	4	16	25	12	57	—	—	—	7.0	28.1	43.9	21.1	100.0

Note :

1. The survey results featured in the Report of the Pharmaceutical Industry Survey are cited for some data.

The surveys up to FY2005 targeted all the companies whose head offices (1) manufacture and sell pharmaceuticals, (2) manufacture drugs, and (3) import and sell drugs, as of the end of each business year (March 31), based on a license for the Manufacture and Sale of Drugs, the Manufacture of Drugs, and the Import and Sale of Drugs, under the Pharmaceutical Affairs Law.

Among the companies, having obtained a pharmaceutical manufacturing and marketing license under the Pharmaceutical Affairs Law as of the end of each business year (March 31) that has been partially revised as the Law on Securing Quality, Efficacy and Safety of Products including Pharmaceuticals and Medical Devices(November, 2013), the surveys since FY2006 (*) targeted the member companies under the fifteen industrial bodies affiliated with the Federation of Pharmaceutical Manufacturers' Associations of Japan.

Moreover, various numerical values for FY2004(†), including drug sales, decreased by 15 to 20% from other years. This, however, was the result of a considerable number of corporations, including large-scale entities, not being incorporated as the compilation targets, causing the figures to deviate considerably from the actual status. Therefore, these figures were not reproduced or included.

2. The figures for JPMA are based on data from the JPMA Survey (questionnaire survey to member companies), and cover the non-consolidated pharmaceutical sector.

Source :

Ministry of Health, Labour and Welfare, Statistics on Pharmaceutical and Medical Device Industry

<https://www.e-stat.go.jp/stat-search/files?page=1&toukei=00450152&tstat=000001034412>

Employment in the Pharmaceutical Industry (Japan)

A-1-3

Fiscal Year	Number of surveyed companies	No. of Employees						Share (%)							
		Total	Administration	Production & Quality Control	Research & Development	Researchers	Marketing	Medical Representative	Total	Administration	Production & Quality Control	Research & Development	Researchers	Marketing	Medical Representative
1990	762	196,759	27,900	63,888	32,422	—	72,549	42,500	100.0	14.2	32.5	16.5	—	36.8	21.6
1995	600	244,774	36,403	72,869	42,495	24,593	93,007	51,878	100.0	14.9	29.8	17.4	10.0	38.0	21.2
2000	398	209,939	25,587	60,640	38,334	21,052	85,378	50,442	100.0	12.2	28.9	18.3	10.0	40.7	24.0
2001	408	195,781	23,605	55,724	34,310	18,681	82,142	48,417	100.0	12.1	28.5	17.5	9.5	42.0	24.7
2002	396	202,649	23,960	55,414	37,465	20,677	85,810	54,226	100.0	11.8	27.3	18.5	10.2	42.3	26.8
2003	395	203,138	26,232	54,933	36,625	19,211	85,348	54,103	100.0	12.9	27.0	18.0	9.5	42.0	26.6
2004†	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2005	355	188,954	25,828	52,439	31,454	13,745	79,233	49,467	100.0	13.7	27.8	16.6	7.3	41.9	26.2
2006*	366	165,386	20,915	43,712	30,302	—	70,457	43,938	100.0	12.6	26.4	18.3	—	42.6	26.6
2007*	375	158,663	17,937	36,618	27,362	—	76,746	42,648	100.0	11.3	23.1	17.2	—	48.4	26.9
2008*	351	160,532	19,957	42,404	26,741	—	71,429	40,531	100.0	12.4	26.4	16.7	—	44.5	25.2
2009*	378	174,060	21,922	44,519	34,448	—	73,171	52,961	100.0	12.6	25.6	19.8	—	42.0	30.4
2010*	366	165,756	20,688	41,568	30,027	—	73,473	53,748	100.0	12.5	25.1	18.1	—	44.3	32.4
2011*	334	191,651	23,585	47,901	33,918	—	86,247	56,098	100.0	12.3	25.0	17.7	—	45.0	29.3
2012*	341	167,514	21,486	42,805	29,406	—	73,817	55,705	100.0	12.8	25.6	17.6	—	44.1	33.3
2013*	337	173,114	22,737	40,304	31,361	—	78,712	59,455	100.0	13.1	23.3	18.1	—	45.5	34.3
2014*	336	168,056	22,473	42,675	29,459	—	73,449	52,670	100.0	13.4	25.4	17.5	—	43.7	31.3
2015*	318	172,687	24,194	45,409	30,311	—	72,773	45,880	100.0	14.0	26.3	17.6	—	42.1	26.6
2016*	301	151,282	22,132	39,839	26,171	—	63,140	42,552	100.0	14.6	26.3	17.3	—	41.7	28.1
2017*	306	146,238	23,001	42,872	22,393	—	57,972	37,920	100.0	15.7	29.3	15.3	—	39.6	25.9
2018*	304	149,282	22,675	41,301	25,272	—	60,034	38,241	100.0	15.2	27.7	16.9	—	40.2	25.6
2019*	289	140,404	21,975	40,608	23,132	—	54,689	33,372	100.0	15.7	28.9	16.5	—	39.0	23.8
2020	—	112,453	8,877	9,500	15,398	—	33,604	26,268							
JPMA		57	42	42	43	—	43	45							

Note :

- The survey results featured in the Report of the Pharmaceutical Industry Survey are cited for some data.
The surveys up to FY2005 targeted all the companies whose head offices (1) manufacture and sell pharmaceuticals, (2) manufacture drugs, and (3) import and sell drugs, as of the end of each business year (March 31), based on a license for the Manufacture and Sale of Drugs, the Manufacture of Drugs, and the Import and Sale of Drugs, under the Pharmaceutical Affairs Law.
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Moreover, various numerical values for FY2004(†), including drug sales, decreased by 15 to 20% from other years. This, however, was the result of a considerable number of corporations, including large-scale entities, not being incorporated as the compilation targets, causing the figures to deviate considerably from the actual status. Therefore, these figures were not reproduced or included.
- The number of employees counted in this figure belongs to the pharmaceutical divisions.
Instructors are not included in 'Medical Representative'.
- The figures for JPMA are based on data from the JPMA Survey (questionnaire survey to member companies), and cover the non-consolidated pharmaceutical sector.
The figures in the lower in this row show the number of companies responded, and the sum of the categories does not equal to JPMA total sum shown due to incomplete responses.

Source :

Ministry of Health, Labour and Welfare, Statistics on Pharmaceutical and Medical Device Industry
<https://www.mhlw.go.jp/toukei/list/87-1.html>

Employment in the Pharmaceutical Industry (Europe)

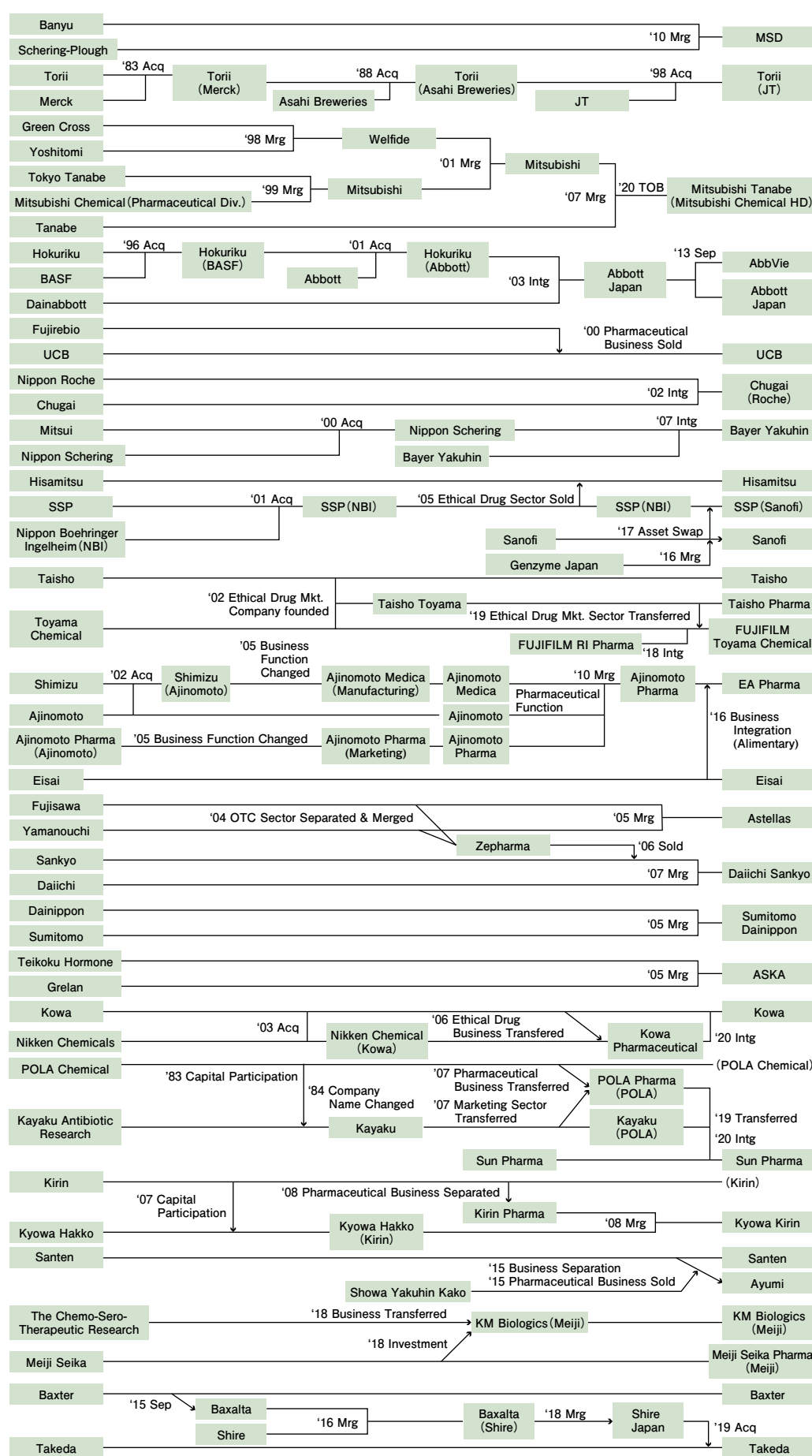
A-1-4

Year	(Unit: No. of Employees)																				
	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Austria	7,584	9,200	—	—	9,523	10,002	9,593	9,877	10,534	—	10,705	11,175	11,195	12,226	13,117	—	14,140	14,634	14,860	15,411	16,094
Belgium	19,038	22,713	24,137	25,408	26,390	27,185	28,605	29,155	29,405	29,600	31,966	31,536	32,167	32,718	33,701	34,075	34,617	35,250	35,711	37,073	38,489
Denmark	16,136	15,131	—	—	—	16,759	16,933	17,286	16,827	17,019	20,223	20,223	—	19,535	21,150	26,455	26,963	26,963	26,963	24,875	24,821
Finland	4,118	6,544	6,810	7,110	7,032	6,648	6,097	6,110	6,185	6,002	5,623	5,333	5,436	5,308	5,465	5,476	5,233	4,792	4,722	4,715	5,672
France	101,000	95,300	96,300	98,100	98,900	99,400	101,500	103,350	103,633	103,384	100,355	97,645	103,900	95,692	93,209	92,650	98,690	98,786	98,786	98,528	98,780
Germany	122,870	114,581	114,959	114,990	119,800	114,200	113,100	113,200	112,550	105,843	104,605	103,208	105,435	110,006	110,036	112,475	114,069	115,663	117,013	119,535	119,994
Greece	8,000	11,500	11,500	11,000	11,200	11,300	11,350	11,450	13,000	13,500	14,000	12,500	13,700	14,586	13,200	26,100	26,000	16,800	19,700	21,739	25,700
Ireland	10,500	16,000	18,000	20,000	21,000	22,500	24,000	24,500	24,500	24,500	24,500	25,000	24,000	—	25,441	26,373	26,373	26,373	29,766	29,766	37,000
Italy	63,194	72,559	78,770	83,670	84,088	73,266	74,000	74,726	72,000	69,500	67,500	66,700	65,000	63,500	62,300	63,000	63,500	64,400	65,400	66,500	65,800
Netherlands	13,000	13,200	15,100	15,800	15,500	16,000	16,200	—	16,900	16,000	16,900	—	15,000	13,000	—	12,000	12,000	17,900	17,900	15,000	20,000
Norway	3,630	4,402	4,447	4,572	4,603	4,571	4,564	4,691	4,670	4,630	4,630	4,200	4,000	3,800	3,800	—	3,800	3,800	3,800	4,000	4,000
Portugal	8,500	9,388	10,484	10,897	10,691	10,717	10,953	10,581	10,479	10,244	9,761	9,580	8,502	8,000	—	—	7,500	7,400	7,700	7,900	9,000
Spain	38,000	38,700	38,950	38,400	39,000	39,000	39,285	39,117	40,117	40,385	39,155	39,932	37,971	36,713	36,992	38,677	38,677	41,102	42,687	42,653	47,449
Sweden	15,344	18,700	19,100	21,200	21,600	20,100	20,974	18,434	16,830	15,725	14,766	13,773	13,185	12,867	11,482	11,012	11,012	11,012	11,012	11,012	11,012
Switzerland	27,500	26,000	29,613	—	—	31,000	32,038	34,000	34,440	35,400	35,280	36,680	38,561	40,070	40,913	41,876	43,848	44,232	46,503	46,800	46,652
UK	74,000	65,000	69,000	83,000	73,000	73,000	68,000	72,000	67,000	72,000	—	65,000	—	73,000	—	64,000	61,500	61,000	63,250	62,500	72,000

Source : EFPIA, The Pharmaceutical Industry in Figures
<https://www.efpia.eu/>

M&A in Pharmaceutical Industry (Japan)

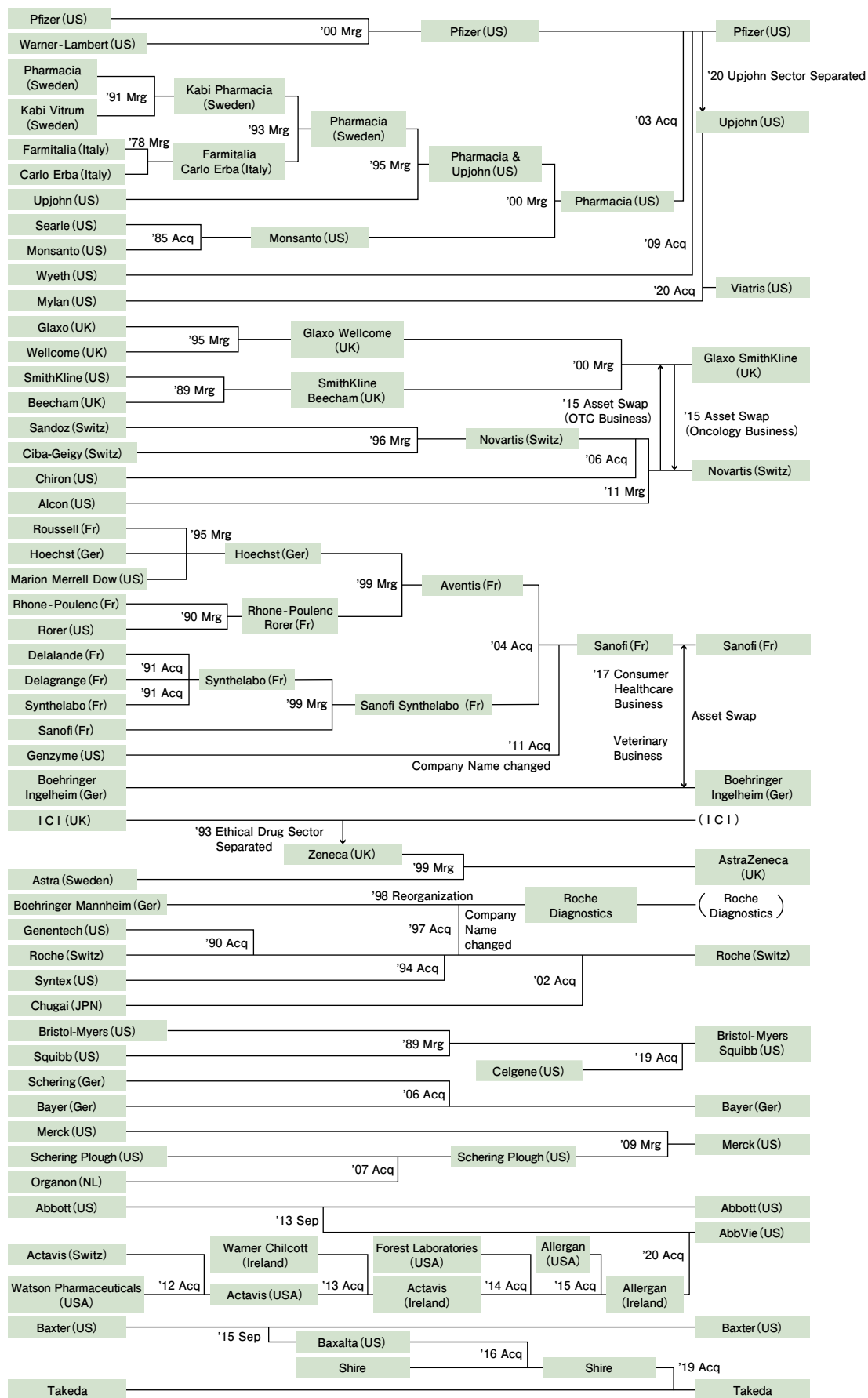
A-1-5



Acq: Acquisition Mrg: Merger Intg: Integration Sep: Separation

M&A in Pharmaceutical Industry (Worldwide)

A-1-6



A. Pharmaceutical Industry Outlook

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Pharmaceutical Market -Manufacturers Sales- (Japan)

A-2-1

(Unit: JPY 100 mil.)

Fiscal Year	Number of surveyed companies	Total	Ethical drugs	Generic drugs	OTC drugs	Raw materials and Others
1990	1,565	52,821	41,903	—	7,478	3,441
1995	1,564	73,104	59,407	—	9,195	4,501
2000	1,396	81,126	68,848	3,124	7,820	4,458
2001	1,391	88,271	74,593	2,356	8,407	5,271
2002	1,347	92,585	79,560	2,819	8,331	4,694
2003	1,342	94,467	81,763	2,663	7,479	5,225
2004 [†]	—	—	—	—	—	—
2005	1,231	97,232	85,328	3,130	7,040	4,864
2006 *	364	89,586	79,139	4,074	6,360	4,087
2007 *	380	88,820	77,309	4,249	7,492	4,018
2008 *	351	94,980	84,219	3,944	6,518	4,243
2009 *	380	113,432	101,383	4,429	7,022	5,027
2010 *	370	106,516	94,462	7,970	7,259	4,795
2011 *	341	116,137	103,901	8,010	7,473	4,763
2012 *	349	118,567	106,718	8,372	7,239	4,610
2013 *	329	132,948	121,749	9,959	7,476	3,723
2014 *	313	123,339	113,098	9,490	7,194	3,047
2015 *	288	106,578	97,281	9,757	5,381	3,916
2016 *	287	107,132	97,537	7,412	6,527	3,069
2017 *	268	110,151	100,565	4,744	6,548	3,037
2018 [†]	—	—	—	—	—	—
2019 *	259	109,557	100,412	8,635	6,741	2,404

Note :

1. The survey results featured in the Report of the Pharmaceutical Industry Survey are cited for some data.

The surveys up to FY2005 targeted all the companies whose head offices (1) manufacture and sell pharmaceuticals, (2) manufacture drugs, and (3) import and sell drugs, as of the end of each business year (March 31), based on a license for the Manufacture and Sale of Drugs, the Manufacture of Drugs, and the Import and Sale of Drugs, under the Pharmaceutical Affairs Law.

Among the companies, having obtained a pharmaceutical manufacturing and marketing license under the Pharmaceutical Affairs Law as of the end of each business year (March 31) that has been partially revised as the Law on Securing Quality, Efficacy and Safety of Products including Pharmaceuticals and Medical Devices(November, 2013), the surveys since FY2006 (*) targeted the member companies under the fifteen industrial bodies affiliated with the Federation of Pharmaceutical Manufacturers' Associations of Japan.

Moreover, various numerical values for FY2004 and FY2018(†), including drug sales, significantly decreased from other years. This, however, was the result of a considerable number of corporations, including large-scale entities, not being incorporated as the compilation targets, causing the figures to deviate considerably from the actual status. Therefore, these figures were not reproduced or included.

2. Sales figures are based on consolidated accounts for companies that use consolidated accounting and on non-consolidated accounts for companies that do not use consolidated accounting.

3. Sales figure includes overseas sales.

4. 'Ethical drugs' includes in vitro diagnostics.

5. 'Raw materials and Others' includes bulk products and medical supplies such as hygiene products.

The figures from 2006 include products sold by distributors.

Source :

Ministry of Health, Labour and Welfare, Statistics on Pharmaceutical and Medical Device Industry

<https://www.e-stat.go.jp/stat-search/files?page=1&toukei=00450152&tstat=000001034412>

Sales of Pharmaceutical Manufacturers by Capital Scale (Japan)

A-2-2

FY2019

(Unit: JPY mil.)

Product Category		Capital Scale							
		Less than JPY 10 mil.	JPY 10-50 mil.	JPY 50-100 mil.	JPY 100-300 mil.	JPY 300 mil.- 1 bil.	JPY 1-5 bil.	Over JPY 5 bil.	Total
Specialized Pharmaceutical Companies	Ethical Drug	31,148	53,471	205,626	461,308	218,158	1,386,700	9,056,049	11,412,460
	Generic	0	28,812	68,595	183,590	21,741	212,070	368,883	883,691
	OTC	30	31,519	60,256	34,174	66,379	52,303	303,476	548,137
	Raw materials and Others	0	1,153	37,557	19,597	4,586	77,369	378,002	518,264
	Total	31,178	86,143	303,439	515,079	289,123	1,516,372	9,737,527	12,478,861
Diversified Companies	Ethical Drug	21	3,569	1,100	6,136	21,728	100,768	330,923	464,245
	Generic	0	1,195	0	283	9,497	387	159,991	171,353
	OTC	27	5,733	4,990	9,528	1,080	120,386	81,057	222,801
	Raw materials and Others	5	76	0	0	799	136	13,380	14,396
	Total	53	9,378	6,090	15,664	23,607	221,290	425,360	701,442
Total	Ethical Drug	31,169	57,040	206,726	467,444	239,886	1,487,468	9,386,972	11,876,705
	Generic	0	30,007	68,595	183,873	31,238	212,457	528,874	1,055,044
	OTC	57	37,252	65,246	43,702	67,459	172,689	384,533	770,938
	Raw materials and Others	5	1,229	37,557	19,597	5,385	77,505	391,382	532,660
	Total	31,231	95,521	309,529	530,743	312,730	1,737,662	10,162,887	13,180,303

Note :

1. The number of surveyed companies is 283.

Among the companies, having obtained a pharmaceutical manufacturing and marketing license under the Pharmaceutical Affairs Law as of the end of FY2019 (March 31), the surveys targeted the member companies under the fifteen industrial bodies affiliated with the Federation of Pharmaceutical Manufacturers' Associations of Japan.

2. Sales figures are based on consolidated accounts for companies that use consolidated accounting and on non-consolidated accounts for companies that do not use consolidated accounting.

3. 'Ethical drug' includes in vitro diagnostics.

4. 'Raw materials and Others' includes bulk products, medical supplies (e.g. hygiene products) and in-house products sold by distributors.

Source :

Ministry of Health, Labour and Welfare, Statistics on Pharmaceutical and Medical Device Industry

<https://www.e-stat.go.jp/stat-search/files?page=1&toukei=00450152&tstat=000001034412>

Comparison of Pharmaceutical Sales between Domestic and Foreign Companies (Japan) A-2-3

Fiscal Year	Domestic			Foreign			Total		
	Counted Companies	Total Sales (JPY mil.)	Ratio (%)	Counted Companies	Total Sales (JPY mil.)	Ratio (%)	Counted Companies	Total Sales (JPY mil.)	Ratio (%)
2001	1,320	5,623,298	78.8	71	1,517,102	21.2	1,391	7,140,400	100.0
2002	1,273	5,742,721	75.3	74	1,881,953	24.7	1,347	7,624,674	100.0
2003	1,277	5,855,057	75.0	65	1,954,923	25.0	1,342	7,809,980	100.0
2004†	—	—	—	—	—	—	—	—	—
2005	1,172	6,346,103	77.1	59	1,883,314	22.9	1,231	8,229,417	100.0
2006 *	334	5,811,684	76.9	30	1,746,920	23.1	364	7,558,604	100.0
2007 *	351	5,489,431	74.5	29	1,883,767	25.5	380	7,373,198	100.0
2008 *	312	6,669,209	82.3	25	1,438,489	17.7	337	8,107,698	100.0
2009 *	347	7,415,118	75.9	29	2,349,289	24.1	376	9,764,407	100.0
2010 *	336	7,283,023	80.0	34	1,816,488	20.0	370	9,099,511	100.0
2011 *	303	7,635,227	76.9	38	2,293,654	23.1	341	9,928,881	100.0
2012 *	308	7,775,190	76.1	41	2,445,665	23.9	349	10,220,855	100.0
2013 *	286	8,519,805	72.4	44	3,249,857	27.6	330	11,769,662	100.0
2014 *	272	8,328,460	77.1	41	2,474,386	22.9	313	10,802,846	100.0
2015 *	275	8,663,995	81.5	32	1,965,488	18.5	307	10,629,483	100.0
2016 *	260	8,516,661	82.8	34	1,766,618	17.2	294	10,283,279	100.0
2017 *	265	7,836,373	80.0	33	1,962,093	20.0	298	9,798,466	100.0
2018†	—	—	—	—	—	—	—	—	—
2019 *	258	10,264,359	90.2	28 社	1,168,141	9.8	286 社	13,199,398	100.0

Note :

1. The survey results featured in the Report of the Pharmaceutical Industry Survey are cited for some data.

The surveys up to FY2005 targeted all the companies whose head offices (1) manufacture and sell pharmaceuticals, (2) manufacture drugs, and (3) import and sell drugs, as of the end of each business year (March 31), based on a license for the Manufacture and Sale of Drugs, the Manufacture of Drugs, and the Import and Sale of Drugs, under the Pharmaceutical Affairs Law.

Among the companies, having obtained a pharmaceutical manufacturing and marketing license under the Pharmaceutical Affairs Law as of the end of each business year (March 31) that has been partially revised as the Law on Securing Quality, Efficacy and Safety of Products including Pharmaceuticals and Medical Devices(November, 2013), the surveys since FY2006 (*) targeted the member companies under the fifteen industrial bodies affiliated with the Federation of Pharmaceutical Manufacturers' Associations of Japan.

Moreover, various numerical values for FY2004 and FY2018(†), including drug sales, significantly decreased from other years. This, however, was the result of a considerable number of corporations, including large-scale entities, not being incorporated as the compilation targets, causing the figures to deviate considerably from the actual status. Therefore, these figures were not reproduced or included.

2. Sales figures are based on consolidated accounts for companies that use consolidated accounting and on non-consolidated accounts for companies that do not use consolidated accounting.

3. Sales figure includes overseas sales.

Source :

Ministry of Health, Labour and Welfare, Statistics on Pharmaceutical and Medical Device Industry
<https://www.e-stat.go.jp/stat-search/files?page=1&toukei=00450152&tstat=000001034412>

Concentration on Pharmaceutical Sales to Leading Companies (Japan) A-2-4

Fiscal Year	Total No. of Companies	Sales Share of 5 Leading Companies	Sales Share of 10 Leading Companies	Sales Share of 30 Leading Companies	Sales Share of 50 Leading Companies	Sales Share of 100 Leading Companies
1994	1,788	18.3 %	30.9 %	55.7 %	68.9 %	83.8 %
1995	1,691	19.3 %	31.4 %	56.3 %	69.6 %	84.2 %
1996	1,596	22.2 %	34.6 %	59.2 %	72.2 %	85.3 %
1997	1,562	23.6 %	36.0 %	62.9 %	75.9 %	87.4 %
1998	1,627	20.3 %	32.2 %	60.1 %	73.0 %	85.8 %
1999	1,427	23.6 %	36.6 %	65.6 %	78.8 %	90.7 %
2000	1,396	26.7 %	40.6 %	68.0 %	80.6 %	92.3 %
2001	1,391	27.4 %	41.5 %	69.3 %	81.5 %	92.2 %
2002	1,347	28.3 %	42.3 %	69.7 %	82.0 %	92.8 %
2003	1,342	28.6 %	42.5 %	70.8 %	82.3 %	92.7 %
2004 [†]	—	—	—	—	—	—
2005	1,231	35.5 %	49.8 %	74.9 %	85.1 %	94.3 %
2006 [*]	371	37.6 %	50.8 %	73.5 %	83.9 %	94.7 %
2007 [*]	381	40.2 %	54.2 %	76.8 %	86.6 %	95.9 %
2008 [*]	351	43.5 %	58.0 %	78.9 %	87.9 %	96.7 %
2009 [*]	378	40.3 %	55.3 %	80.0 %	88.7 %	96.4 %
2010 [*]	374	37.9 %	52.9 %	77.8 %	87.0 %	96.0 %
2011 [*]	344	37.1 %	51.6 %	76.9 %	86.3 %	96.1 %
2012 [*]	352	36.1 %	51.1 %	76.7 %	86.5 %	96.0 %
2013 [*]	330	36.4 %	51.2 %	77.1 %	87.4 %	96.6 %
2014 [*]	318	37.1 %	51.9 %	76.9 %	86.4 %	96.3 %
2015 [*]	314	39.2 %	51.8 %	76.6 %	86.5 %	96.3 %
2016 [*]	299	39.3 %	52.7 %	78.8 %	88.2 %	96.9 %
2017 [*]	303	38.2 %	53.0 %	79.2 %	88.4 %	97.0 %
2018 [†]	—	—	—	—	—	—
2019 [*]	292	47.6 %	60.7 %	83.1 %	90.0 %	97.6 %

Note :

1. The survey results featured in the Report of the Pharmaceutical Industry Survey are cited for some data.

The surveys up to FY2005 targeted all the companies whose head offices (1) manufacture and sell pharmaceuticals, (2) manufacture drugs, and (3) import and sell drugs, as of the end of each business year (March 31), based on a license for the Manufacture and Sale of Drugs, the Manufacture of Drugs, and the Import and Sale of Drugs, under the Pharmaceutical Affairs Law.

Among the companies, having obtained a pharmaceutical manufacturing and marketing license under the Pharmaceutical Affairs Law as of the end of each business year (March 31) that has been partially revised as the Law on Securing Quality, Efficacy and Safety of Products including Pharmaceuticals and Medical Devices(November, 2013), the surveys since FY2006 (*) targeted the member companies under the fifteen industrial bodies affiliated with the Federation of Pharmaceutical Manufacturers' Associations of Japan.

Moreover, various numerical values for FY2004 and FY2018(†), including drug sales, significantly decreased from other years. This, however, was the result of a considerable number of corporations, including large-scale entities, not being incorporated as the compilation targets, causing the figures to deviate considerably from the actual status. Therefore, these figures were not reproduced or included.

2. Sales figures are based on consolidated accounts for companies that use consolidated accounting and on non-consolidated accounts for companies that do not use consolidated accounting.

Source :

Ministry of Health, Labour and Welfare, Statistics on Pharmaceutical and Medical Device Industry

<https://www.e-stat.go.jp/stat-search/files?page=1&toukei=00450152&tstat=000001034412>

Ethical Drug Market (Japan)

A-2-5

Year	Hospitals		General Practitioners		Others		Total	
	NHI price basis (JPY mil.)	Change (%)	NHI price basis (JPY mil.)	Change (%)	NHI price basis (JPY mil.)	Change (%)	NHI price basis (JPY mil.)	Change (%)
2003	3,132,568	△ 0.3	2,025,286	0.8	1,898,352	16.9	7,056,206	4.1
2004	3,104,605	△ 0.9	2,018,984	△ 0.3	2,079,721	9.6	7,203,310	2.1
2005	3,256,718	4.9	2,145,407	6.3	2,343,384	12.7	7,745,509	7.5
2006	3,182,478	△ 2.3	2,064,241	△ 3.8	2,450,252	4.6	7,696,972	△ 0.6
2007	3,223,745	1.3	2,120,352	2.7	2,703,762	10.3	8,047,859	4.6
2008	3,231,198	0.2	2,109,205	△ 0.5	2,913,886	7.8	8,254,290	2.6
2009	3,397,615	5.2	2,238,302	6.1	3,215,730	10.4	8,851,647	7.2
2010	3,493,355	2.8	2,152,187	△ 3.8	3,228,082	0.4	8,873,623	0.2
2011	3,701,742	6.0	2,294,007	6.6	3,485,830	8.0	9,481,578	6.9
2012	3,765,659	1.7	2,238,767	△ 2.4	3,542,888	1.6	9,547,314	0.7
2013	3,871,769	2.8	2,217,331	△ 1.0	3,757,540	6.1	9,846,641	3.1
2014	3,927,171	1.4	2,176,245	△ 1.9	3,880,010	3.3	9,983,426	1.4
2015	4,354,617	10.9	2,226,461	2.3	4,016,857	3.5	10,597,934	6.2
2016	4,575,350	5.1	2,175,395	△ 2.3	3,873,892	△ 3.6	10,624,636	0.3
2017	4,509,256	△ 1.4	2,166,171	△ 0.4	3,839,451	△ 0.9	10,514,878	△ 1.0
2018	4,540,310	0.7	2,115,549	△ 2.3	3,681,611	△ 4.1	10,337,471	△ 1.7
2019	4,747,150	4.6	2,137,887	1.1	3,740,593	1.6	10,625,631	2.8
2020	4,710,346	△ 0.8	2,014,663	△ 5.8	3,646,724	△ 2.5	10,371,733	△ 2.4

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Ethical Drug Sales -20 Leader Companies- (Japan)

A-2-6

(1) Promotion Company Level [NHI price basis]

	2020 (Jan.-Dec.)	2019 (Jan.-Dec.)	2018 (Jan.-Dec.)	2017 (Jan.-Dec.)	(Unit: JPY mil.)
1 Takeda	512,259	Pfizer	569,489	Pfizer	566,082
2 Chugai	481,730	Chugai	508,318	Daiichi Sankyo	477,966
3 Daiichi Sankyo	401,220	Takeda	492,429	Chugai	449,801
4 AstraZeneca	374,597	Daiichi Sankyo	446,245	Takeda	406,943
5 MSD	348,137	AstraZeneca	378,727	MSD	347,187
6 Janssen Pharmaceutical	325,254	MSD	374,614	AstraZeneca	304,945
7 Novartis Pharma	321,491	Novartis Pharma	330,453	Mitsubishi Tanabe	303,071
8 Otsuka	309,333	Eli Lilly Japan	318,393	Bayer	302,692
9 Eli Lilly Japan	309,298	Otsuka	316,768	Bayer	297,235
10 Bayer	299,249	Bayer	315,345	Otsuka	278,917
11 Pfizer	269,817	Glaxo Smith Kline	277,331	Mitsubishi Tanabe	262,853
12 Mitsubishi Tanabe	254,714	Mitsubishi Tanabe	268,480	Novartis Pharma	260,565
13 Viartis	252,332	Janssen Pharmaceutical	268,162	Janssen Pharmaceutical	251,027
14 Glaxo Smith Kline	252,111	Astellas	234,876	Astellas	240,239
15 Astellas	229,681	Ono	202,449	AbbVie	233,572
16 Ono	199,985	Nichi-Iko	200,692	Ono	217,943
17 Nippon Boehringer Ingelheim	195,217	Sanofi	197,718	Kyowa Hakkō Kirin	203,928
18 Sanofi	189,086	Nippon Boehringer Ingelheim	189,292	Nippon Boehringer Ingelheim	189,277
19 Nichi-Iko	187,283	Kyowa Kirin	186,972	Sawai	169,100
20 Bristol-Myers Squibb	182,926	Sawai	179,247	Bristol-Myers Squibb	166,559
				Sawai	162,590

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(2) Distributor Level [NHI price basis]

	2020 (Jan.-Dec.)	2019 (Jan.-Dec.)	2018 (Jan.-Dec.)	2017 (Jan.-Dec.)	(Unit: JPY mil.)
1 Takeda	721,503	Takeda	715,374	Takeda	693,439
2 Daiichi Sankyo	632,292	Daiichi Sankyo	672,728	Daiichi Sankyo	654,855
3 Pfizer	513,048	Pfizer	519,510	Astellas	502,096
4 Chugai	481,125	Chugai	507,433	Pfizer	487,105
5 Astellas	385,962	Astellas	456,049	Chugai	476,969
6 Otsuka	364,346	Otsuka	382,056	Otsuka	353,041
7 Mitsubishi Tanabe	343,774	MSD	371,892	MSD	349,715
8 MSD	343,449	Mitsubishi Tanabe	348,540	Otsuka	326,808
9 Eli Lilly Japan	272,318	Glaxo Smith Kline	294,295	Novartis Pharma	299,183
10 Glaxo Smith Kline	271,454	Novartis Pharma	292,857	Glaxo Smith Kline	289,249
11 AstraZeneca	256,539	Eli Lilly Japan	274,821	Eli Lilly Japan	270,224
12 Ono	248,408	Ono	243,511	Ono	251,860
13 Novartis Pharma	247,136	AstraZeneca	242,236	Bayer	230,517
14 Bayer	213,519	Bayer	235,548	Kyowa Hakkō Kirin	222,802
15 Janssen Pharmaceutical	205,412	Kyowa Kirin	220,892	Eisai	203,206
16 Eisai	199,549	Eisai	204,387	AbbVie	176,191
17 Kyowa Kirin	197,072	Nichi-Iko	193,575	Janssen Pharmaceutical	175,470
18 Sumitomo Dainippon	196,441	Sawai	179,247	Santen	169,197
19 Nippon Boehringer Ingelheim	190,729	Santen	177,854	Sawai	168,976
20 Nichi-Iko	189,947	Janssen Pharmaceutical	176,386	Nichi-Iko	163,364
				Sawai	162,590

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Pharmaceutical Market (Worldwide) (1/2)

(1) Sales by Geographic Region

Year	North America		Africa / Asia / Australasia		Europe		Latin America		World Total	
	Sales (USD bil.)	Share (%)	Sales (USD bil.)	Share (%)	Sales (USD bil.)	Share (%)	Sales (USD bil.)	Share (%)	Sales (USD bil.)	Share (%)
2003	231.3	46.4	107.2	21.5	137.4	27.5	23.1	4.6	499.0	100.0
2004	252.5	45.1	120.6	21.6	160.6	28.7	26.2	4.7	559.9	100.0
2005	261.1	43.4	133.5	22.2	174.4	29.0	32.2	5.4	601.2	100.0
2006	285.7	44.0	139.3	21.5	187.8	28.9	35.9	5.5	648.7	100.0
2007	298.6	41.1	155.5	21.4	229.1	31.4	43.3	6.0	726.4	100.0
2008	304.5	38.1	186.2	23.3	256.1	32.1	52.0	6.5	799.0	100.0
2009	320.2	38.6	211.0	25.4	246.1	29.7	53.3	6.4	830.6	100.0
2010	340.9	38.4	239.0	26.9	245.9	27.6	62.4	7.0	888.2	100.0
2011	355.6	36.9	277.4	28.8	263.2	27.2	67.2	7.0	963.4	100.0
2012	351.1	36.4	296.2	30.7	245.8	25.5	71.1	7.4	964.2	100.0
2013	367.1	36.9	296.1	29.8	258.1	26.0	72.5	7.3	993.8	100.0
2014	414.2	39.2	310.4	29.4	266.2	25.2	65.1	6.2	1055.9	100.0
2015	453.8	41.1	337.0	30.5	238.5	21.6	74.7	6.8	1104.0	100.0
2016	479.0	42.0	330.9	29.0	244.5	21.4	86.9	7.6	1141.3	100.0
2017	488.7	41.5	333.8	28.3	260.2	22.1	95.4	8.1	1178.1	100.0
2018	518.2	42.6	350.0	28.8	281.5	23.1	66.5	5.5	1216.1	100.0
2019	546.4	43.0	372.1	29.2	286.3	22.5	67.3	5.3	1272.1	100.0
2020	571.8	43.8	368.7	28.2	303.2	23.2	61.6	4.7	1305.4	100.0

Note : Numerical data may differ from those of past DATA BOOK due to revision in accordance with changes in data in the quoted sources.

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Pharmaceutical Market (Worldwide) (2/2)

(2) Sales of Top 10 Countries

A-2-7

Year	USA		China		Japan		Germany		France		Italy		UK		Brazil		Spain		Canada		Others		World Total	
	Sales (USD bil.)	Share (%)	Sales (USD bil.)	Share (%)	Sales (USD bil.)	Share (%)	Sales (USD bil.)	Share (%)	Sales (USD bil.)	Share (%)	Sales (USD bil.)	Share (%)	Sales (USD bil.)	Share (%)	Sales (USD bil.)	Share (%)	Sales (USD bil.)	Share (%)	Sales (USD bil.)	Share (%)	Sales (USD bil.)	Share (%)	Sales (USD bil.)	Share (%)
2003	221.6	44.4	7.4	1.5	59.7	12.0	26.3	5.3	25.6	5.1	16.6	3.3	16.5	3.3	6.4	1.3	11.3	2.3	9.6	1.9	97.8	19.6	499.0	100.0
2004	240.8	43.0	9.6	1.7	64.7	11.6	29.0	5.2	30.1	5.4	19.2	3.4	20.0	3.6	7.8	1.4	13.1	2.3	11.8	2.1	113.9	20.3	559.9	100.0
2005	247.7	41.2	11.6	1.9	67.7	11.3	31.1	5.2	32.0	5.3	19.9	3.3	19.4	3.2	9.7	1.6	15.1	2.5	13.5	2.2	133.4	22.2	601.2	100.0
2006	270.1	41.6	13.4	2.1	63.7	9.8	32.1	4.9	33.2	5.1	21.5	3.3	20.5	3.2	10.7	1.7	16.5	2.5	15.6	2.4	151.4	23.3	648.7	100.0
2007	281.0	38.7	24.8	3.4	65.7	9.0	37.3	5.1	38.5	5.3	24.2	3.3	23.4	3.2	13.2	1.8	19.6	2.7	17.6	2.4	181.2	24.9	726.4	100.0
2008	285.3	35.7	36.5	4.6	77.0	9.6	41.9	5.2	42.5	5.3	27.3	3.4	22.2	2.8	18.1	2.3	22.6	2.8	19.2	2.4	206.2	25.8	799.0	100.0
2009	301.1	36.3	45.3	5.4	89.9	10.8	41.3	5.0	40.4	4.9	27.1	3.3	19.8	2.4	19.1	2.3	22.7	2.7	19.1	2.3	204.8	24.7	830.6	100.0
2010	319.2	35.9	54.8	6.2	96.2	10.8	42.2	4.7	38.5	4.3	26.6	3.0	20.3	2.3	25.8	2.9	22.2	2.5	21.6	2.4	220.8	24.9	888.2	100.0
2011	330.6	34.3	66.7	6.9	112.1	11.6	44.7	4.6	40.0	4.1	28.7	3.0	23.1	2.4	31.7	3.3	22.7	2.4	22.3	2.3	240.8	25.0	963.4	100.0
2012	326.1	33.8	85.0	8.8	108.6	11.3	42.1	4.4	36.9	3.8	31.4	3.3	23.2	2.4	26.3	2.7	20.0	2.1	22.0	2.3	242.4	25.1	964.2	100.0
2013	342.8	34.5	97.3	9.8	90.7	9.1	45.9	4.6	37.5	3.8	28.1	2.8	24.3	2.4	31.0	3.1	20.8	2.1	21.4	2.2	254.1	25.6	993.8	100.0
2014	389.4	36.9	111.4	10.6	85.4	8.1	48.4	4.6	38.3	3.6	28.9	2.7	27.9	2.6	32.5	3.1	21.2	2.0	21.3	2.0	251.1	23.8	1055.9	100.0
2015	430.6	39.0	120.5	10.9	78.8	7.1	42.3	3.8	32.2	2.9	27.1	2.5	28.5	2.6	26.0	2.4	20.5	1.9	19.4	1.8	278.1	25.2	1104.0	100.0
2016	455.4	39.9	122.6	10.7	89.1	7.8	43.8	3.8	33.2	2.9	29.0	2.5	26.7	2.3	27.6	2.4	21.1	1.9	19.7	1.7	273.2	23.9	1141.3	100.0
2017	463.7	39.4	128.1	10.9	85.6	7.3	46.9	4.0	34.3	2.9	30.8	2.6	26.5	2.2	33.5	2.8	22.4	1.9	21.1	1.8	285.2	24.2	1178.1	100.0
2018	491.9	40.5	136.7	11.2	85.6	7.0	51.9	4.3	36.3	3.0	34.0	2.8	28.8	2.4	32.5	2.7	24.6	2.0	22.1	1.8	271.8	22.4	1216.1	100.0
2019	518.8	40.8	150.4	11.8	89.1	7.0	52.4	4.1	35.9	2.8	33.2	2.6	29.9	2.4	33.4	2.6	24.7	1.9	23.1	1.8	281.3	22.1	1272.1	100.0
2020	543.3	41.6	147.8	11.3	88.6	6.8	57.0	4.4	37.8	2.9	33.7	2.6	32.1	2.5	28.5	2.2	26.5	2.0	23.8	1.8	286.3	21.9	1305.4	100.0

Note : Numerical data may differ from those of past DATA BOOK due to revision in accordance with changes in data in the quoted sources.

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Concentration on Pharmaceutical Sales to Leading Companies (Worldwide) (1/2) A-2-8

(1) Total Sales

Value (USD mil.)												
Year (Jan.-Dec.)	1st- 10th Companies	11th- 20th Companies	21st- 30th Companies	31st- 40th Companies	41st- 50th Companies	51st- 60th Companies	61st- 70th Companies	71st- 80th Companies	81st- 90th Companies	91st- 100th Companies	101th- Companies	Total
2006	281,663	104,951	40,204	24,860	17,323	12,889	10,175	8,301	6,921	5,726	93,759	606,776
2007	300,896	118,740	47,386	30,591	18,973	14,235	11,259	8,597	7,352	6,213	107,445	671,687
2008	308,869	133,668	54,798	34,145	21,616	16,246	11,642	9,417	7,807	6,916	119,666	724,790
2009	338,529	123,532	52,493	33,420	22,235	15,781	11,811	9,397	7,942	7,051	128,836	751,027
2010	351,057	131,763	55,085	32,949	22,690	15,590	11,284	9,903	9,062	7,690	143,754	790,827
2011	370,323	147,174	59,943	35,199	24,400	16,906	12,423	11,021	9,947	8,548	157,615	853,499
2012	354,531	147,487	63,833	36,000	25,864	17,129	13,107	11,250	10,214	8,495	168,880	856,790
2013	346,224	145,018	70,584	39,774	27,433	18,430	13,597	11,474	10,017	8,922	183,369	874,842
2014	361,801	166,275	75,658	41,201	28,747	19,681	14,419	12,309	10,819	9,755	197,669	938,334
2015	368,964	181,811	74,889	38,362	26,584	18,614	14,513	11,845	10,617	9,657	196,138	951,994
2016	381,106	197,425	82,405	42,011	28,974	19,840	15,438	13,234	11,822	10,408	211,007	1,013,670
2017	391,369	200,862	82,105	43,002	28,572	20,757	16,997	14,765	12,956	11,390	222,027	1,044,802
2018	409,961	206,253	85,454	42,775	29,193	21,706	18,112	15,188	12,495	10,566	220,080	1,071,783
2019	434,198	226,862	76,728	38,586	26,880	21,630	17,935	16,276	13,006	11,216	231,926	1,115,243
2020	462,561	243,626	72,064	38,649	28,091	22,716	17,896	15,933	13,411	11,556	235,429	1,161,932
Share												
Year (Jan.-Dec.)	1st- 10th Companies	11th- 20th Companies	21st- 30th Companies	31st- 40th Companies	41st- 50th Companies	51st- 60th Companies	61st- 70th Companies	71st- 80th Companies	81st- 90th Companies	91st- 100th Companies	101th- Companies	Total
2006	46.4%	17.3%	6.6%	4.1%	2.9%	2.1%	1.7%	1.4%	1.1%	0.9%	15.5%	100.0%
2007	44.8%	17.7%	7.0%	4.6%	2.8%	2.1%	1.7%	1.3%	1.1%	0.9%	16.0%	100.0%
2008	42.6%	18.4%	7.6%	4.7%	3.0%	2.2%	1.6%	1.3%	1.1%	1.0%	16.5%	100.0%
2009	45.1%	16.4%	7.0%	4.4%	3.0%	2.1%	1.6%	1.3%	1.1%	0.9%	17.2%	100.0%
2010	44.4%	16.7%	7.0%	4.2%	2.9%	2.0%	1.4%	1.3%	1.1%	1.0%	18.2%	100.0%
2011	43.4%	17.2%	7.0%	4.1%	2.9%	2.0%	1.5%	1.3%	1.2%	1.0%	18.4%	100.0%
2012	41.4%	17.2%	7.5%	4.2%	3.0%	2.0%	1.5%	1.3%	1.2%	1.0%	19.7%	100.0%
2013	39.6%	16.6%	8.1%	4.5%	3.1%	2.1%	1.6%	1.3%	1.1%	1.0%	21.0%	100.0%
2014	38.6%	17.7%	8.1%	4.4%	3.1%	2.1%	1.5%	1.3%	1.2%	1.0%	21.1%	100.0%
2015	38.8%	19.1%	7.9%	4.0%	2.8%	2.0%	1.5%	1.2%	1.1%	1.0%	20.6%	100.0%
2016	37.6%	19.5%	8.1%	4.1%	2.9%	2.0%	1.5%	1.3%	1.2%	1.0%	20.8%	100.0%
2017	37.7%	19.3%	7.9%	4.1%	2.8%	2.0%	1.6%	1.4%	1.2%	1.1%	20.8%	100.0%
2018	38.5%	19.4%	8.0%	4.0%	2.7%	2.0%	1.7%	1.4%	1.2%	1.0%	20.1%	100.0%
2019	39.2%	20.5%	6.9%	3.5%	2.4%	2.0%	1.6%	1.5%	1.2%	1.0%	20.3%	100.0%
2020	40.0%	21.1%	6.2%	3.3%	2.4%	2.0%	1.5%	1.4%	1.2%	1.0%	19.8%	100.0%

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Concentration on Pharmaceutical Sales to Leading Companies (Worldwide) (2/2) A-2-8

(2) Cumulative Total Sales

Cumulative Total Sales (USD mil.)											
Year (Jan.-Dec.)	Top10 Companies	Top20 Companies	Top30 Companies	Top40 Companies	Top50 Companies	Top60 Companies	Top70 Companies	Top80 Companies	Top90 Companies	Top100 Companies	Total
2006	281,663	386,615	426,819	451,679	469,002	481,892	492,069	500,368	507,289	513,017	606,776
2007	300,896	419,636	467,022	497,613	516,586	530,821	542,080	550,677	558,029	564,242	671,687
2008	308,869	442,537	497,335	531,480	553,096	569,342	580,984	590,401	598,208	605,124	724,790
2009	338,529	462,061	514,554	547,974	570,209	585,990	597,801	607,198	615,140	622,191	751,027
2010	351,057	482,820	537,905	570,854	593,544	609,134	620,418	630,321	639,383	647,073	790,827
2011	370,323	517,497	577,440	612,639	637,039	653,945	666,368	677,389	687,336	695,884	853,499
2012	354,531	502,018	565,851	601,851	627,715	644,844	657,951	669,201	679,415	687,910	856,790
2013	346,224	491,242	561,826	601,600	629,033	647,463	661,060	672,534	682,551	691,473	874,842
2014	361,801	528,076	603,734	644,935	673,682	693,363	707,782	720,091	730,910	740,665	938,334
2015	368,964	550,775	625,664	664,026	690,610	709,224	723,737	735,582	746,199	755,856	951,994
2016	381,106	578,531	660,936	702,947	731,921	751,761	767,199	780,433	792,255	802,663	1,013,670
2017	391,369	592,231	674,336	717,338	745,910	766,667	783,664	798,429	811,385	822,775	1,044,802
2018	409,961	616,214	701,668	744,443	773,636	795,342	813,454	828,642	841,137	851,703	1,071,783
2019	434,198	661,060	737,788	776,374	803,254	824,884	842,819	859,095	872,101	883,317	1,115,243
2020	462,561	706,187	778,251	816,900	844,991	867,707	885,603	901,536	914,947	926,503	1,161,932
Share											
Year (Jan.-Dec.)	Top10 Companies	Top20 Companies	Top30 Companies	Top40 Companies	Top50 Companies	Top60 Companies	Top70 Companies	Top80 Companies	Top90 Companies	Top100 Companies	Total
2006	46.4%	63.7%	70.3%	74.4%	77.3%	79.4%	81.1%	82.5%	83.6%	84.5%	100.0%
2007	44.8%	62.5%	69.5%	74.1%	76.9%	79.0%	80.7%	82.0%	83.1%	84.0%	100.0%
2008	42.6%	61.1%	68.6%	73.3%	76.3%	78.6%	80.2%	81.5%	82.5%	83.5%	100.0%
2009	45.1%	61.5%	68.5%	73.0%	75.9%	78.0%	79.6%	80.8%	81.9%	82.8%	100.0%
2010	44.4%	61.1%	68.0%	72.2%	75.1%	77.0%	78.5%	79.7%	80.8%	81.8%	100.0%
2011	43.4%	60.6%	67.6%	71.7%	74.6%	76.6%	78.1%	79.4%	80.6%	81.6%	100.0%
2012	41.4%	58.6%	66.0%	70.2%	73.3%	75.3%	76.8%	78.1%	79.3%	80.3%	100.0%
2013	39.6%	56.2%	64.2%	68.8%	71.9%	74.0%	75.6%	76.9%	78.0%	79.0%	100.0%
2014	38.6%	56.3%	64.3%	68.7%	71.8%	73.9%	75.4%	76.7%	77.9%	78.9%	100.0%
2015	38.8%	57.9%	65.7%	69.8%	72.5%	74.5%	76.0%	77.3%	78.4%	79.4%	100.0%
2016	37.6%	57.1%	65.2%	69.3%	72.2%	74.2%	75.7%	77.0%	78.2%	79.2%	100.0%
2017	37.7%	57.0%	64.9%	69.1%	71.8%	73.8%	75.4%	76.9%	78.1%	79.2%	100.0%
2018	38.5%	57.8%	65.8%	69.9%	72.6%	74.6%	76.3%	77.8%	78.9%	79.9%	100.0%
2019	39.2%	59.6%	66.5%	70.0%	72.4%	74.4%	76.0%	77.5%	78.6%	79.7%	100.0%
2020	40.0%	61.1%	67.4%	70.7%	73.1%	75.1%	76.7%	78.0%	79.2%	80.2%	100.0%

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A. Pharmaceutical Industry Outlook

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Note :
1. Only includes JPMA members who responded to the survey. '*' represents companies which adopt Non-consolidated Financial Statements.
2. '-' represents invalid answers or not-public.

Source : JPMA Survey (questionnaire survey to member companies), Financial statements.

Financial Results of JPMA Member Companies (2/2)

A-3-1

Company	Total Sales (JPY mil.)		Pharmaceutical Sales (JPY mil.)		Operating Income (JPY mil.)		Ordinary Income (JPY mil.)		Net Income (JPY mil.)		No. of Employees	
	FY2019	FY2020	FY2019	FY2020	FY2019	FY2020	FY2019	FY2020	FY2019	FY2020	FY2019	FY2020
Mylan	*	—	—	—	—	—	—	—	—	—	950	—
Nihon Pharma.	*	17,832	15,618	14,890	12,508	2,326	2,581	1,064	1,228	429	389	423
Nippon Chemiphar		31,756	31,541	28,029	27,322	364	307	582	436	495	807	760
Nippon Kayaku		175,123	173,381	47,774	50,441	17,485	18,026	16,538	12,879	12,590	5,847	5,664
Nippon Shinyaku		116,637	121,885	101,643	106,478	21,668	22,442	26,760	16,866	20,702	2,026	2,059
Nippon Zoki Pharma.	*	22,427	20,485	20,582	19,957	△ 877	△ 433	623	44	632	571	586
Novartis	*	264,573	257,439	—	—	6,353	7,591	16,429	8,853	8,311	—	—
Novo Nordisk	*	88,487	97,773	88,487	97,773	5,416	5,530	6,334	3,690	4,438	1,013	1,065
Ono Pharma.		292,420	309,284	292,420	211,571	77,491	79,696	100,890	59,704	75,425	3,560	3,607
Otsuka Pharma.	*	543,233	554,757	413,892	433,087	137,682	150,012	147,185	102,668	114,693	5,814	5,780
Pfizer	*	458,600	—	458,600	—	—	—	—	—	—	4,513	—
Sanofi	*	181,800	175,771	—	—	20,500	26,300	29,868	18,100	20,094	—	1,937
Santen Pharma.		241,555	249,605	236,618	244,097	33,535	—	—	23,618	6,830	4,108	4,229
Sanwa Kagaku	*	44,693	43,363	28,044	—	1,181	1,288	1,300	737	△ 484	1,162	—
Seikagaku		28,642	27,662	—	20,720	1,960	3,981	3,024	△ 10,839	4,262	868	913
Senju Pharma.		41,214	40,778	39,810	40,264	2,210	4,364	8,085	3,972	5,845	948	938
Shionogi		334,958	297,177	—	—	125,232	151,752	—	121,296	112,061	5,222	5,485
Sumitomo Dainippon		482,732	515,952	482,732	515,952	83,239	71,224	—	35,918	36,829	6,457	6,822
Sun Pharma	*	—	—	—	—	—	—	—	—	—	207	230
Taiho Pharma.	*	138,982	140,110	121,079	132,545	17,294	18,665	19,075	12,255	18,704	2,337	2,246
Taisho Pharma.		288,527	281,980	288,527	—	21,137	24,474	25,946	20,172	13,316	9,354	9,195
Takeda		3,291,188	3,197,812	3,291,188	3,197,812	100,408	509,269	—	44,290	376,171	47,495	47,099
Teijin Pharma		—	140,585	—	—	—	—	35,192	—	24,140	—	—
Teikoku Seiyaku	*	30,073	31,376	28,105	30,263	2,494	4,102	3,309	3,047	2,000	753	763
Toa Eiyo	*	14,260	13,292	13,999	13,150	553	973	976	479	961	509	509
Toray		2,214,633	1,883,600	6,161	4,432	131,186	103,355	—	55,725	47,339	48,031	46,267
Torii Pharma.	*	42,998	41,700	40,641	41,053	1,430	1,691	4,971	27,367	3,495	660	568
Tsumura		123,248	130,883	—	130,883	18,876	19,649	20,866	13,765	14,741	3,840	3,830
Wakamoto Pharma.	*	10,916	8,895	10,726	8,734	△ 996	△ 911	△ 605	△ 1,656	△ 602	315	306
Yakult		406,004	385,706	19,670	18,123	45,675	58,478	57,601	39,735	39,267	28,395	28,798
Zeria Pharma.		60,427	55,442	60,272	55,285	4,095	3,879	3,175	2,925	3,119	1,667	1,690

Note :

1. Only includes JPMA members who responded to the survey. "*" represents companies which adopt Non-consolidated Financial Statements.
2. '—' represents invalid answers or not-public.

Source : JPMA Survey (questionnaire survey to member companies). Financial statements.

Financial Results of the Leading Pharmaceutical Manufacturers (21 companies / Consolidated)(Japan)

A-3-2

FY2020

Company	Accounting Standards	Total Sales (JPY mil.)	Pharma Segment Sales (JPY mil.)	% of Total Sales	Income before tax (JPY mil.)	% of Total Sales	Net Income (JPY mil.)	% of Total Sales	Total Assets (JPY mil.)	Equity (JPY mil.)	Equity Ratio (%)	ROA (%)	ROE (%)	Overseas sales (JPY mil.)	% of Total Sales	No. of Employees
Takeda	IFRS	3,197,812	3,197,812	100.0	366,235	11.5	376,005	11.8	12,912,293	5,173,037	40.1	2.9	7.6	2,638,064	82.5	47,099
Otsuka Holdings	IFRS	1,422,826	955,159	67.1	189,988	13.4	148,137	10.4	2,627,807	1,852,375	70.5	5.7	8.2	762,555	53.6	33,151
Astellas	IFRS	1,249,528	1,249,528	100.0	145,324	11.6	120,589	9.7	2,273,628	1,386,115	61.0	5.3	9.0	952,298	76.2	15,455
Daiichi Sankyo	IFRS	962,516	962,516	100.0	74,124	7.7	75,958	7.9	2,085,178	1,272,053	61.0	3.6	5.9	401,789	41.7	16,033
Chugai	IFRS	786,946	786,946	100.0	298,188	37.9	214,733	27.3	1,235,498	980,003	79.3	18.7	23.4	367,988	46.8	7,555
Eisai	IFRS	645,942	586,060	90.7	52,551	8.1	42,119	6.5	1,090,009	703,183	64.5	3.9	6.1	382,422	59.2	11,237
Sumitomo Dainippon	IFRS	515,952	479,054	92.8	77,851	15.1	56,219	10.9	1,308,127	580,570	44.4	4.4	10.1	323,344	62.7	6,822
Mitsubishi Tanabe	IFRS	377,800	377,800	100.0	△ 57,700	△ 15.3	△ 46,900	△ 12	1,053,300	816,900	77.6	△ 4.5	△ 5.6	64,800	17.1	6,728
Kyowa Kirin	IFRS	318,352	318,352	100.0	52,263	16.4	47,027	14.8	801,290	698,396	87.2	5.9	6.8	151,712	47.7	5,423
Ono Pharma.	IFRS	309,284	309,284	100.0	100,890	32.6	75,425	24.4	746,842	635,547	85.1	10.6	12.6	96,419	31.2	3,607
Shionogi	IFRS	297,177	297,177	100.0	143,018	48.1	111,858	37.6	998,992	846,108	84.7	12.0	13.9	178,587	60.1	5,485
Taisho Pharmaceutical Holdings	J-GAAP	281,980	281,980	100.0	22,976	8.1	13,316	4.7	876,923	729,506	83.2	1.5	1.8	92,606	32.8	9,195
Santen Pharma.	IFRS	249,605	249,605	100.0	12,418	5.0	6,830	2.7	402,353	307,585	76.4	1.7	2.2	80,472	32.2	4,229
Tsumura	J-GAAP	130,883	130,883	100.0	20,456	15.6	15,332	11.7	319,063	217,787	68.3	4.9	7.2	-	< 10	3,830
Nippon Shinyaku	J-GAAP	121,885	106,478	87.4	28,759	23.6	20,702	17.0	197,028	162,255	82.4	11.1	13.5	31,740	26.0	2,059
Hisamitsu Pharma.	J-GAAP	114,510	114,510	100.0	12,197	10.7	9,250	8.1	299,861	252,299	84.1	3.0	3.7	39,340	34.4	2,770
Mochida Pharma.	J-GAAP	102,995	102,995	100.0	11,900	11.6	8,587	8.3	161,791	126,974	78.5	5.4	6.9	-	< 10	1,558
Kyorin Holdings	J-GAAP	102,904	102,904	100.0	8,352	8.1	6,130	6.0	167,126	124,661	74.6	3.6	5.0	-	< 10	2,243
Kaken Pharma.	J-GAAP	74,979	72,614	96.8	18,657	24.9	13,405	17.9	163,332	136,257	83.4	8.3	10.1	-	< 10	1,215
Kissei Pharma.	J-GAAP	69,044	56,407	81.7	7,476	10.8	5,285	7.7	268,861	219,315	81.6	2.1	2.6	-	< 10	1,863
Zeria Pharma.	J-GAAP	55,442	55,285	99.7	3,923	7.1	3,120	5.6	121,859	56,013	46.0	2.8	5.7	19,097	34.4	1,690

Note : ROA (Return on Asset), ROE (Return on Equity)

1. Except when published data is not available (unlisted companies etc.).

2. There is no reporting requirement when overseas sales are less than 10 %.

3. IFRS : International Financial Reporting Standards, J-GAAP: Japan Generally Accepted Accounting Principles

Source : SPEEDA (UZABASE Inc.), Annual reports, Financial Information

Financial Results of the Leading Pharmaceutical Manufacturers (25 companies / Consolidated)(Worldwide)

A-3-3

FY2020

Company	Accounting Standards	Period	Currency	Total Sales	Pharma Segment Sales	Pharma Segment Sales by USD mil.	% of Total Sales	Income before tax	% of Total Sales	Net Income	% of Total Sales	Total Assets	Equity	Equity Ratio (%)	ROA (%)	ROE (%)	No. of Employees	Income before tax/ No. of Employees (USD 1,000)
Novartis	IFRS	2020/12	USD mil.	48,659	48,659	48,659	100.0	9,878	20.3	8,072	16.6	132,059	56,598	42.9	6.4	14.4	105,794	93.4
Roche	IFRS	2020/12	CHF mil.	58,323	44,532	47,433	76.4	17,965	30.8	14,295	24.5	86,138	36,341	42.2	16.9	41.4	101,465	188.6
AbbVie	SEC	2020/12	USD mil.	45,804	45,804	45,804	100.0	3,398	7.4	4,556	9.9	150,565	13,076	8.7	3.8	-	47,000	72.3
Johnson & Johnson	SEC	2020/12	USD mil.	82,584	45,572	45,572	55.2	16,497	20.0	14,714	17.8	174,894	63,278	36.2	8.8	24.0	134,500	122.7
Merck (USA)	SEC	2020/12	USD mil.	47,994	43,021	43,021	89.6	8,791	18.3	7,067	14.7	91,588	25,317	27.6	8.0	27.6	74,000	118.8
Bristol-Myers Squibb	SEC	2020/12	USD mil.	42,518	42,518	42,518	100.0	△ 6,871	△ 16.2	△ 9,015	△ 21.2	118,481	37,822	31.9	△ 7.3	△ 20.2	30,250	△ 227.1
Pfizer	SEC	2020/12	USD mil.	41,908	41,908	41,908	100.0	7,497	17.9	9,616	22.9	154,229	63,238	41.0	6.0	15.2	78,500	95.5
Sanofi	IFRS	2020/12	EUR mil.	36,041	31,647	36,147	87.8	13,804	38.3	12,314	34.2	114,529	63,001	55.0	10.8	20.2	99,412	158.6
GlaxoSmithKline	IFRS	2020/12	GBP mil.	34,099	24,038	30,818	70.5	6,988	20.4	5,749	16.9	80,431	14,587	18.1	7.2	44.2	94,066	95.0
Takeda	IFRS	2021/03	JPY mil.	3,197,812	3,197,812	29,949	100.0	366,235	11.5	376,005	11.8	12,912,293	5,173,037	40.1	2.9	7.6	47,099	72.8
AstraZeneca	IFRS	2020/12	USD mil.	26,617	26,617	26,617	100.0	3,916	14.7	3,196	12.0	66,729	15,622	23.4	5.0	22.2	76,100	51.5
Amgen	SEC	2020/12	USD mil.	25,424	25,424	25,424	100.0	8,133	32.0	7,264	28.6	62,948	9,409	14.9	11.8	76.1	24,300	334.7
Gilead Sciences	SEC	2020/12	USD mil.	24,689	24,689	24,689	100.0	1,669	6.8	123	0.5	68,407	18,202	26.6	0.2	0.6	13,600	122.7
Eli Lilly	SEC	2020/12	USD mil.	24,540	24,540	24,540	100.0	7,230	29.5	6,194	25.2	46,633	5,642	12.1	14.4	150.2	35,000	206.6
Bayer	IFRS	2020/12	EUR mil.	41,400	17,243	19,695	41.6	△ 17,250	△ 41.7	△ 10,495	△ 25.4	117,046	30,524	26.1	△ 8.6	△ 27.0	99,538	△ 197.9
Novo Nordisk	IFRS	2020/12	DKK mil.	126,946	126,946	19,404	100.0	53,130	41.9	42,138	33.2	144,922	63,325	43.7	31.2	69.7	45,323	179.2
Boehringer Ingelheim	DRS21	2020/12	EUR mil.	19,566	15,252	17,421	78.0	4,305	22.0	3,062	15.6	36,887	17,306	46.9	8.7	19.2	51,944	94.7
Teva	SEC	2020/12	USD mil.	16,659	16,659	16,659	100.0	△ 4,406	△ 26.4	△ 3,990	△ 24.0	50,640	10,026	19.8	△ 7.4	△ 33.3	39,717	△ 110.9
Biogen	SEC	2020/12	USD mil.	13,445	13,445	13,445	100.0	5,048	37.5	4,001	29.8	24,619	10,700	43.5	15.4	33.3	9,100	554.7
Viatis Inc	SEC	2020/12	USD mil.	11,946	11,946	11,946	100.0	△ 721	△ 6.0	△ 670	△ 5.6	61,563	22,954	37.3	△ 1.4	△ 3.8	45,000	△ 16.0
Astellas	IFRS	2021/03	JPY mil.	1,249,528	1,249,528	11,702	100.0	145,324	11.6	120,589	9.7	2,273,628	1,386,115	61.0	5.3	9.0	15,455	88.1
Daiichi Sankyo	IFRS	2021/03	JPY mil.	962,516	962,516	9,014	100.0	74,124	7.7	75,958	7.9	2,085,178	1,272,053	61.0	3.6	5.9	16,033	43.3
Otsuka Holdings	IFRS	2020/12	JPY mil.	1,422,826	955,159	8,946	67.1	189,988	13.4	148,137	10.4	2,627,807	1,852,375	70.5	5.7	8.2	33,151	53.7
Merck (Germany)	IFRS	2020/12	EUR mil.	17,534	6,639	7,583	37.9	2,630	15.0	1,987	11.3	41,796	17,017	40.5	4.6	11.4	58,096	51.7
Eisai	IFRS	2021/03	JPY mil.	645,942	586,060	5,489	90.7	52,551	8.1	42,119	6.5	1,090,009	703,183	64.5	3.9	6.1	11,237	43.8

Note : ROA (Return on Asset), ROE (Return on Equity)

IFRS : International Financial Reporting Standards, SEC: Generally Accepted Accounting Principles(USA), DRS21:Deutsches Rechnungslegungs Standards.

Source : SPEEDA (UZABASE Inc.), Annual reports

Overseas Sales of Pharmaceuticals (Japan / USA / Europe) (1/2)

A-3-4

Japan

Company	Target	Overseas Sales	Unit	Fiscal Year																			
				2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Takeda	Outside of Japan	Value	JPY mil.	348,714	409,834	461,920	478,433	537,124	643,600	694,202	843,129	777,044	698,059	775,494	822,757	957,803	1,065,010	1,119,288	1,076,706	1,190,182	1,526,208	2,698,402	2,638,064
	Share	%	34.7	39.2	34.7	42.6	44.3	49.3	50.5	54.8	53.0	49.2	51.4	52.8	56.6	59.9	61.9	62.2	67.2	72.8	82.0	82.5	
Astellas	Outside of Japan	Value	JPY mil.	—	—	—	—	398,261	450,062	489,570	468,979	460,712	422,531	421,592	464,039	622,400	758,896	882,736	847,584	893,901	930,191	925,669	952,298
	Share	%	—	—	—	—	—	45.3	48.9	50.3	48.6	47.3	44.3	43.5	46.1	53.4	60.8	64.3	64.6	68.7	71.2	71.2	76.2
Otsuka Holdings	Outside of Japan	Value	JPY mil.	—	—	—	—	—	—	—	395,014	482,337	515,467	579,704	622,747	824,440	756,969	805,752	571,545	601,300	646,460	706,506	762,555
	Share	%	—	—	—	—	—	—	—	—	41.3	50.7	47.3	50.2	51.1	56.7	61.8	55.8	47.8	48.5	50.0	50.6	53.6
Daiichi Sankyo	Outside of Japan	Value	JPY mil.	—	—	—	—	—	356,700	358,639	373,254	525,516	489,735	469,085	486,658	584,485	392,389	430,675	375,240	341,885	333,816	374,080	401,789
	Share	%	—	—	—	—	—	—	38.4	40.8	44.3	48.5	50.6	50.0	48.8	52.3	42.7	43.7	39.3	35.6	35.9	38.1	41.7
Eisai	Outside of Japan	Value	JPY mil.	199,583	233,458	262,264	288,147	343,898	410,765	454,551	475,257	465,535	401,383	258,328	231,571	243,729	240,660	251,770	243,515	257,063	346,035	415,925	382,422
	Share	%	46.2	50.0	52.4	54.1	57.2	60.9	61.9	60.8	58.0	58.0	52.2	39.9	40.4	40.6	43.9	45.9	45.2	42.8	53.8	59.8	59.2
Sumitomo Dainippon	Outside of Japan	Value	JPY mil.	—	—	—	—	—	—	24,520	22,051	53,015	152,226	130,242	128,187	172,990	172,809	213,049	225,284	280,703	288,351	302,054	323,344
	Share	%	—	—	—	—	—	—	—	9.3	8.4	17.9	40.1	37.2	36.9	44.6	46.5	52.8	54.7	60.1	62.8	62.6	62.7
Mitsubishi Tanabe	Outside of Japan	Value	JPY mil.	—	—	—	—	—	—	37,283	35,208	26,862	—	—	47,735	59,375	77,944	116,937	103,608	112,966	117,044	65,800	64,800
	Share	%	—	—	—	—	—	—	—	9.1	8.5	6.6	—	—	11.4	14.4	18.8	27.1	24.4	26.0	27.6	17.3	17.1
Shionogi	Outside of Japan	Value	JPY mil.	—	—	—	—	—	26,063	37,658	54,486	99,842	104,436	83,190	97,676	101,951	88,619	134,438	148,458	185,177	216,591	207,535	178,587
	Share	%	—	—	—	—	—	—	13.0	17.6	23.9	35.8	37.0	31.1	34.5	35.2	32.3	43.4	43.8	53.7	59.5	62.3	60.1

USA

Company	Target	Overseas Sales	Unit	Fiscal Year																			
				2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Pfizer	Outside of USA	Value	USD mil.	12,327	11,611	18,344	22,977	24,634	22,549	25,265	27,861	28,260	38,763	40,492	35,900	31,310	28,544	26,868	26,455	26,519	28,318	27,899	20,196
		Share	%	38.2	35.9	40.6	43.8	48.0	46.6	52.2	57.7	56.5	57.2	60.1	60.9	60.7	57.5	55.0	50.1	50.5	52.8	53.9	48.2
Johnson & Johnson	Outside of USA	Value	USD mil.	12,800	13,843	16,588	19,578	22,137	23,549	28,651	31,438	31,008	32,137	36,122	37,394	39,402	39,549	34,387	34,079	36,587	39,697	39,962	39,451
		Share	%	38.8	38.1	39.6	41.3	43.8	44.2	46.9	49.3	50.1	52.2	55.5	55.6	55.3	53.2	49.1	47.4	47.9	48.7	48.7	47.8
Merck (USA)	Outside of USA	Value	USD mil.	—	—	9,165	9,467	9,245	8,859	9,507	10,480	13,027	25,761	27,552	26,875	25,787	25,166	21,979	21,329	22,698	24,082	26,515	26,967
		Share	%	37.0	39.0	40.8	41.3	42.0	39.1	39.3	43.9	47.5	56.0	57.3	56.9	58.6	59.6	55.6	53.6	56.6	56.9	56.6	56.2
AbbVie (2001-2010: Abbott)	Outside of USA	Value	USD mil.	6,036	6,687	7,703	8,438	9,631	10,481	12,662	15,033	16,312	19,973	7,732	7,945	8,609	9,115	9,298	9,691	9,965	11,229	9,359	10,925
		Share	%	37.1	37.8	39.1	42.9	43.1	46.6	48.9	50.9	53.0	56.8	44.3	43.2	45.8	45.7	40.7	37.8	35.3	34.3	28.1	23.9
Gilead Sciences	Outside of USA	Value	USD mil.	—	—	—	—	—	—	—	—	—	3,412	3,777	4,111	4,507	6,708	11,405	11,036	7,913	5,858	5,804	6,472
		Share	%	—	—	—	—	—	—	—	—	—	46.9	45.0	42.4	40.2	27.0	34.9	36.3	30.3	26.5	25.9	26.2
Amgen	Outside of USA	Value	USD mil.	312	495	1,104	1,698	2,130	2,461	2,868	3,227	3,216	3,417	3,597	3,850	4,196	4,667	4,421	4,567	4,820	5,104	6,138	6,928
		Share	%	7.8	9.0	13.2	16.1	17.1	17.2	19.4	21.5	22.0	22.7	23.1	22.3	22.5	23.3	20.4	19.9	21.1	22.7	26.3	27.2
Eli Lilly	Outside of USA	Value	USD mil.	4,178	4,541	5,407	6,189	6,847	7,091	8,488	9,444	9,542	10,210	11,309	10,290	10,223	10,482	9,861	9,716	10,086	10,681	9,597	10,310
		Share	%	36.2	41.0	43.0	44.7	46.8	45.2	45.6	46.3	43.7	44.2	46.6	45.5	44.2	53.4	49.4	45.8	44.1	43.5	43.0	42.0
Bristol-Myers Squibb	Outside of USA	Value	USD mil.	6,269	6,758	7,997	8,767	8,746	8,185	8,540	8,555	6,899	6,871	7,399	7,237	8,067	8,163	8,372	8,707	9,418	9,975	10,803	15,941
		Share	%	32.3	37.3	38.3	45.2	45.5	45.7	44.1	41.5	36.7	35.3	34.8	41.1	49.2	51.4	50.6	44.8	45.3	44.2	41.3	37.5

Note :

Overseas sales includes the sales figure of pharmaceuticals and non-pharmaceuticals. "*" represents only shares (%) are public.

Source : SPEEDA (UZABASE Inc.), Annual reports

Overseas Sales of Pharmaceuticals (Japan / USA / Europe) (2/2)

A-3-4

Europe

Company	Target	Overseas Sales	Unit	Fiscal Year																			
				2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Novartis	Outside of Europe	Value	USD mil.	21,880	21,810	16,076	17,958	20,212	23,429	23,692	23,425	25,905	32,066	37,059	36,965	36,842	33,490	32,942	31,439	31,617	32,836	29,512	29,944
		Share	%	68.3	67.3	64.7	63.6	62.7	63.3	59.5	56.5	58.5	63.3	63.3	65.2	63.6	64.2	66.7	64.8	64.4	63.3	62.2	61.5
	Outside of Switzerland	Value	USD mil.	31,539	31,920	24,545	27,917	31,846	36,608	39,352	40,928	43,663	50,040	57,840	55,967	57,185	51,522	48,640	47,688	48,273	51,048	46,597	47,859
		Share	%	98.4	98.5	98.7	98.8	98.9	98.9	98.9	98.9	98.7	98.6	98.8	98.8	98.7	98.7	98.4	98.3	98.3	98.4	98.2	98.4
Sanofi	Outside of Europe	Value	EUR mil.	2,583	3,151	3,355	7,692	15,177	16,154	15,868	15,472	17,247	20,169	21,593	23,891	22,447	23,364	24,681	24,052	24,288	25,029	27,274	26,890
		Share	%	39.8	42.3	41.7	51.1	55.6	56.9	56.6	56.1	58.9	62.3	64.7	68.4	68.1	69.2	71.5	71.1	69.3	72.6	75.5	74.6
	Outside of France	Value	EUR mil.	—	—	—	—	—	—	24,442	24,121	26,100	29,275	30,283	32,101	30,380	31,296	32,294	31,615	32,725	32,144	33,865	33,818
		Share	%	—	—	—	—	—	—	87.1	87.5	89.1	90.4	90.7	91.9	92.2	92.7	93.5	93.5	93.4	93.3	93.7	93.8
Roche	Outside of Europe	Value	CHF mil.	18,368	18,474	19,490	18,259	22,234	26,440	28,559	27,986	30,765	30,783	28,184	31,152	32,184	32,917	34,868	36,731	39,549	43,244	48,172	44,550
		Share	%	63.0	62.7	62.4	61.8	62.6	62.9	61.9	61.3	62.7	64.8	66.3	68.5	68.8	69.4	72.4	72.6	74.2	76.1	78.4	76.4
	Outside of Switzerland	Value	CHF mil.	28,650	28,924	30,691	29,137	35,010	41,570	45,644	45,108	48,552	47,009	42,024	44,994	46,254	46,936	47,648	49,999	52,725	56,219	60,876	57,653
		Share	%	98.2	98.2	98.3	98.7	98.6	98.9	98.9	98.9	99.0	99.0	98.8	98.9	98.9	98.9	99.0	98.9	98.9	98.9	99.0	98.9
GlaxoSmithKline	Outside of Europe	Value	GBP mil.	14,634	15,148	14,830	13,591	14,768	16,215	15,477	16,090	—	—	—	19,111	18,994	16,714	17,473	20,413	22,243	22,848	25,685	25,935
		Share	%	71.4	71.4	69.2	68.0	68.2	69.8	68.1	66.1	—	—	—	72.3	71.7	72.7	73.0	73.2	73.7	74.1	76.1	76.1
	Outside of UK	Value	GBP mil.	19,161	19,846	20,037	18,604	20,229	21,724	21,163	22,710	26,504	26,572	25,781	24,906	24,964	21,906	22,817	26,833	29,246	29,898	32,812	33,119
		Share	%	93.5	93.6	93.5	93.1	93.4	93.5	93.2	93.3	93.4	93.6	94.1	94.2	94.2	95.2	95.4	96.2	96.9	97.0	97.2	97.1
AstraZeneca	Outside of Europe	Value	USD mil.	11,210	12,146	12,140	13,776	15,487	17,572	19,418	20,670	22,461	22,921	23,829	20,263	18,505	18,928	17,873	15,845	14,951	16,192	20,222	20,040
		Share	%	68.1	68.1	64.4	64.3	64.7	66.4	65.7	65.4	68.5	68.9	70.9	72.4	72.0	72.5	75.6	74.3	74.2	76.9	82.9	75.3
	Outside of UK	Value	USD mil.	—	17,218	18,317	20,836	23,193	25,625	28,556	30,607	31,747	32,236	32,725	27,305	25,026	25,322	23,053	20,832	19,663	20,580	22,562	24,876
		Share	%	—	96.5	97.2	97.2	96.8	96.8	96.6	96.9	96.8	96.9	97.4	97.6	97.3	97.0	97.5	97.7	97.6	97.8	92.5	93.5
Bayer	Outside of Europe	Value	EUR mil.	17,279	17,654	16,405	16,843	15,453	16,304	18,032	18,369	18,200	21,337	22,087	25,030	25,071	26,027	30,375	27,961	21,627	25,443	30,361	28,519
		Share	%	57.1	59.6	57.4	56.6	56.4	56.3	55.7	55.8	58.4	60.8	60.5	63.0	62.4	63.0	65.6	59.8	61.8	64.3	69.7	68.9
	Outside of Germany	Value	EUR mil.	—	—	—	—	—	—	—	28,121	27,021	30,656	31,880	35,101	35,295	37,258	41,160	41,960	31,623	35,767	41,181	39,039
		Share	%	85.6	86.0	85.8	86.3	84.7	84.4	85.1	85.4	86.7	87.4	87.3	88.3	87.9	88.2	89.3	88.3	90.3	90.4	94.6	94.3
Novo Nordisk	Outside of Europe	Value	DKK mil.	12,274	14,307	14,798	16,620	20,313	24,035	25,481	28,334	33,538	42,112	47,178	58,319	63,509	68,656	87,129	91,098	95,629	95,165	98,759	92,649
		Share	%	51.6	56.8	55.8	57.2	60.2	62.0	60.9	62.2	65.7	69.3	71.1	74.7	76.0	77.3	80.7	81.5	85.6	85.1	80.9	73.0
Boehringer Ingelheim	Outside of Europe	Value	EUR mil.	4,615	5,333	4,939	5,535	6,418	7,279	7,374	7,718	8,741	8,497	9,134	10,497	9,798	9,236	10,671	10,768	12,366	12,182	13,308	13,687
		Share	%	68.9	70.4	66.9	67.9	67.3	68.8	67.3	66.6	68.7	67.5	69.3	71.5	69.7	69.4	72.1	67.9	68.5	69.6	70.1	70.0
	Outside of Germany	Value	EUR mil.	—	6,968	6,739	—	8,719	9,752	10,099	10,615	11,670	—	—	13,658	13,047	12,405	13,896	14,894	14,155	16,610	17,273	17,803
		Share	%	—	91.9	91.3	—	91.4	92.2	92.2	91.5	91.7	—	—	93.0	92.8	93.2	93.9	94.0	94.6	94.9	90.9	91.0

Note :

Overseas sales includes the sales figure of pharmaceuticals and non-pharmaceuticals. "—" represents only shares (%) are public.

Source : SPEEDA (UZABASE Inc.), Annual reports

Comparison of Profitability by company for research-based industries (Worldwide) (1/2)

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FY2020

Industry	Company	Accounting Standards	Currency	Period	Total Sales	Net Income	Net Income Margin (%)	ROA (%)	ROE (%)	Liquidity Ratio (%)	Aggregate Market Value of stock	in USD mil.
Pharmaceuticals	Takeda	IFRS	JPY mil.	2021/03	3,197,812	376,005	11.8	2.9	7.6	153.0	6,229,982	58,347
	Astellas	IFRS	JPY mil.	2021/03	1,249,528	120,589	9.7	5.3	9.0	147.3	3,153,856	29,538
	Daiichi Sankyo	IFRS	JPY mil.	2021/03	962,516	75,958	7.9	3.6	5.9	358.7	6,179,635	57,876
	Otsuka Holdings	IFRS	JPY mil.	2020/12	1,422,826	148,137	10.4	5.7	8.2	241.2	2,396,042	22,440
	Eisai	IFRS	JPY mil.	2021/03	645,942	42,119	6.5	3.9	6.1	202.5	2,126,778	19,918
	Mitsubishi Tanabe	IFRS	JPY mil.	2021/03	377,800	3,538	△ 12.4	△ 4.5	△ 5.6	528.0	-	-
	Sumitomo Dainippon	IFRS	JPY mil.	2021/03	515,952	4,832	10.9	4.4	10.1	165.3	765,585	7,170
	Shionogi	IFRS	JPY mil.	2021/03	297,177	2,783	37.6	12.0	13.9	555.2	1,794,312	16,805
	Toyota	SEC	JPY mil.	2021/03	27,214,594	2,245,261	8.3	3.9	10.2	106.1	24,089,894	225,614
	Honda	IFRS	JPY mil.	2021/03	13,170,519	123,349	657,425	5.0	3.1	7.7	5,730,769	53,672
Automobiles	Nissan	J-GAAP	JPY mil.	2021/03	7,862,572	73,637	△ 448,697	△ 5.7	△ 2.7	△ 11.2	2,410,672	22,577
	Hitachi	IFRS	JPY mil.	2021/03	8,729,196	81,754	501,613	5.7	4.6	15.0	4,838,015	45,311
	Sony	SEC	JPY mil.	2021/03	8,999,360	84,284	1,171,776	13.0	4.7	24.2	14,368,844	134,572
	Panasonic	IFRS	JPY mil.	2021/03	6,698,794	62,738	165,077	2.5	2.5	7.2	3,321,487	31,107
	Mitsubishi	IFRS	JPY mil.	2021/03	4,191,433	39,255	193,132	4.6	4.2	7.5	3,618,024	33,885
	Fujitsu	IFRS	JPY mil.	2021/03	3,589,702	33,619	202,700	5.6	6.4	15.1	3,183,992	29,820
	Canon	SEC	JPY mil.	2020/12	3,160,243	29,597	83,318	2.6	1.8	3.2	2,068,540	19,373
	Toshiba	SEC	JPY mil.	2021/03	3,054,375	28,606	113,981	3.7	3.3	10.8	1,697,365	15,897
	NEC	IFRS	JPY mil.	2021/03	2,994,023	28,041	149,606	5.0	4.4	13.5	1,776,655	16,639
	Ricoh	IFRS	JPY mil.	2021/03	1,682,069	15,753	△ 32,730	△ 1.9	△ 1.4	△ 3.6	807,279	7,561
Electric Machinery	Pfizer	SEC	USD mil.	2020/12	41,908	41,908	9,616	22.9	6.0	15.2	204,605	204,605
	Johnson & Johnson	SEC	USD mil.	2020/12	82,584	82,584	14,714	17.8	8.8	24.0	414,310	414,310
	Merck (USA)	SEC	USD mil.	2020/12	47,994	47,994	7,067	14.7	8.0	27.6	206,957	206,957
	AbbVie	SEC	USD mil.	2020/12	45,804	45,804	4,556	9.9	3.8	-	189,171	189,171
	Gilead Sciences	SEC	USD mil.	2020/12	24,689	24,689	123	0.5	0.2	0.6	73,031	73,031
	Amgen	SEC	USD mil.	2020/12	25,424	25,424	7,264	28.6	11.8	76.1	133,852	133,852
	Eli Lilly	SEC	USD mil.	2020/12	24,540	24,540	6,194	25.2	14.4	150.2	161,509	161,509
	Bristol-Myers Squibb	SEC	USD mil.	2020/12	42,518	42,518	△ 9,015	△ 21.2	△ 7.3	△ 20.2	140,172	140,172

Note : ROA (Return on Asset), ROE (Return on Equity)

1. IFRS : International Financial Reporting Standards, SEC: Generally Accepted Accounting Principles(USA), J-GAAP: Japan Generally Accepted Accounting Principles

2. Aggregate Market Values of stock were at the applicable last business day of FY2019 for each company.

Source : SPEEDA (UZABASE Inc.), Annual reports

Comparison of Profitability by company for research-based industries (Worldwide) (2/2)

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	Industry	Company	Accounting Standards	Currency	Period	Total Sales	in USD mil.	Net Income	in USD mil.	Net Income Margin (%)	ROA (%)	ROE (%)	Liquidity Ratio (%)	Aggregate Market Value of stock	in USD mil.
USA	Other Industries	Apple	SEC	USD mil.	2021/09	365,817	365,817	94,680	94,680	25.9	28.1	147.4	107.5	2,339,018	2,339,018
		Amazon	SEC	USD mil.	2020/12	386,064	386,064	21,331	21,331	5.5	7.8	27.4	105.0	1,634,168	1,634,168
		Ford Motor	SEC	USD mil.	2020/12	127,144	127,144	△ 1,279	△ 1,279	△ 1.0	△ 0.5	△ 4.0	120.1	34,970	34,970
		General Motors	SEC	USD mil.	2020/12	122,485	122,485	6,247	6,247	5.1	2.7	14.4	101.3	59,600	59,600
		GE	SEC	USD mil.	2020/12	79,619	79,619	5,230	5,230	6.6	2.0	16.4	157.7	94,607	94,607
		Alphabet Inc	SEC	USD mil.	2020/12	182,527	182,527	40,269	40,269	22.1	13.5	19.0	306.7	1,185,281	1,185,281
		Microsoft	SEC	USD mil.	2021/06	168,088	168,088	61,271	61,271	36.5	19.3	47.1	208.0	2,040,304	2,040,304
		IBM	SEC	USD mil.	2020/12	73,621	73,621	5,590	5,590	7.6	3.6	27.0	98.2	112,166	112,166
		Intel	SEC	USD mil.	2020/12	77,867	77,867	20,899	20,899	26.8	14.4	26.4	190.9	204,162	204,162
		Facebook	SEC	USD mil.	2020/12	85,965	85,965	29,146	29,146	33.9	19.9	25.4	505.1	778,040	778,040
Europe	Pharmaceuticals	Novartis	IFRS	USD mil.	2020/12	48,659	48,659	8,072	8,072	16.6	6.4	14.4	89.8	217,771	217,771
		Roche	IFRS	CHF mil.	2020/12	58,323	62,122	14,295	15,226	24.5	16.9	41.4	129.7	264,244	281,458
		Sanofi	IFRS	EUR mil.	2020/12	36,041	41,166	12,314	14,065	34.2	10.8	20.2	175.2	98,876	112,936
		GlaxoSmithKline	IFRS	GBP mil.	2020/12	34,099	43,717	5,749	7,371	16.9	7.2	44.2	91.4	67,334	86,326
		AstraZeneca	IFRS	USD mil.	2020/12	26,617	26,617	3,196	3,196	12.0	5.0	22.2	96.2	130,987	130,987
		Bayer	IFRS	EUR mil.	2020/12	41,400	47,287	△ 10,495	△ 11,987	△ 25.4	△ 8.6	△ 27.0	97.1	47,309	54,036
		Novo Nordisk	IFRS	DKK mil.	2020/12	126,946	19,404	42,138	6,441	33.2	31.2	69.7	93.6	986,612	150,808
		Volkswagen	IFRS	EUR mil.	2020/12	222,884	254,577	8,334	9,519	3.7	1.7	6.7	117.9	82,008	93,669
		Daimler	IFRS	EUR mil.	2020/12	154,309	176,251	3,627	4,143	2.4	1.2	5.9	115.5	61,824	70,615
		BASF	IFRS	EUR mil.	2020/12	59,149	67,560	△ 1,060	△ 1,211	△ 1.8	△ 1.3	△ 2.8	183.5	59,444	67,897
	Other Industries	Siemens	IFRS	EUR mil.	2021/09	62,265	71,119	6,161	7,037	9.9	4.7	15.3	131.0	113,438	129,568

Note : ROA (Return on Asset), ROE (Return on Equity)

1. IFRS : International Financial Reporting Standards, SEC: Generally Accepted Accounting Principles(USA), J-GAAP: Japan Generally Accepted Accounting Principles

2. Aggregate Market Values of stock were at the applicable last business day of FY2019 for each company.

Source : SPEEDA (UZABASE Inc.), Annual reports

Comparison of Profitability by industry sectors for research-based industries (Japan) A-3-6

(Unit: %)

	Fiscal Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Pharmaceuticals (32 companies)	Net Income(Loss) after Taxes	9.8	7.6	9.3	8.4	9.1	9.4	10.0	11.2	11.4	10.5	12.0
	Business Income to Total Assets	10.4	9.3	8.2	8.3	7.4	7.9	7.4	8.1	6.5	6.6	7.0
	Return on Equity	8.8	6.7	8.1	7.4	7.4	7.8	8.0	9.1	8.3	7.8	8.6
Computers & Electric Eq. (7 companies)	Net Income(Loss) after Taxes	2.1	1.5	0.8	2.0	2.2	0.4	△ 1.6	6.7	6.5	2.0	5.2
	Business Income to Total Assets	5.0	4.3	3.9	5.3	5.5	3.0	5.5	5.5	5.6	6.1	4.9
	Return on Equity	12.0	8.0	4.0	9.3	8.8	1.4	△ 6.3	22.8	18.5	5.2	12.3
Electronic Eq. & Comp. (61 companies)	Net Income(Loss) after Taxes	4.0	2.4	1.0	6.1	9.1	7.8	7.2	7.1	7.2	4.9	6.8
	Business Income to Total Assets	7.7	4.7	4.4	7.4	9.2	8.6	7.7	8.1	7.9	5.8	6.4
	Return on Equity	5.4	2.9	1.3	7.7	11.0	8.8	7.7	8.2	8.2	5.2	7.0
Household Electric Appl. (18 companies)	Net Income(Loss) after Taxes	△ 0.8	△ 8.8	△ 6.9	0.1	△ 0.6	0.5	1.2	4.0	6.4	4.4	7.4
	Business Income to Total Assets	2.7	0.1	1.5	2.3	2.0	2.6	3.1	4.8	4.9	4.1	4.2
	Return on Equity	△ 2.2	△ 27.2	△ 26.7	0.5	△ 2.6	2.0	4.6	15.4	21.2	12.4	17.6
Automobiles (9 companies)	Net Income(Loss) after Taxes	2.8	2.0	3.9	5.8	6.0	5.8	5.2	7.0	4.7	3.2	3.8
	Business Income to Total Assets	3.5	2.7	4.7	6.3	6.2	6.1	5.0	5.3	4.8	3.9	3.0
	Return on Equity	6.7	4.6	9.2	13.3	12.6	12.2	10.3	13.7	8.9	5.7	5.7
Optical Instruments (7 companies)	Net Income(Loss) after Taxes	1.5	0.6	2.9	3.8	1.5	5.0	5.6	6.5	5.4	4.6	0.4
	Business Income to Total Assets	5.6	6.9	5.5	8.0	7.7	7.7	7.5	7.8	7.4	6.1	4.4
	Return on Equity	4.4	1.8	7.9	7.9	2.5	8.6	8.7	9.8	7.8	6.3	0.5
Manufacturing Industries (985 companies)	Net Income(Loss) after Taxes	2.9	1.8	2.3	3.9	4.1	3.9	4.3	5.9	5.3	3.4	4.4
	Business Income to Total Assets	5.6	4.6	4.7	5.9	6.0	6.0	5.9	6.6	6.2	5.1	4.6
	Return on Equity	6.6	4.0	4.9	8.5	8.4	7.6	8.0	10.9	9.5	5.8	6.7

Note :

- The pharmaceutical companies surveyed include Kyowa Kirin, Kaken, Hisamitsu, Eiken Chemical, Eisai, Ono, Santen, Shionogi, Sumitomo Dainippon, Takeda, Chugai, Nippon Chemiphar, Nippon Shinyaku, Morishita Jintan, Mochida, Astellas, Rohto, Nichi-Iko, Zeria, Seikagaku, Tsumura, Kissei, Towa, Sawai, Taiko, JCR Pharma, SNBL, Daiichi Sankyo, Kyorin Pharmaceutical Holdings, Daito, Otsuka Holdings, Taisho Pharmaceutical Holdings
- Formulation :
 Total asset employed : Current assets + Non-current assets + Deferred Assets + Note discounted
 Operating income (loss) : Sales income (loss) + Amortization of goodwill + Accounts receivable and dividends
 Business income to total assets (%) = Operating income (loss) / Total assets × 100
 Return on equity (%) = Net income / Equity × 100

Source : Development Bank of Japan, Handbook of Industrial Financial Data 2021

Value-Added Ratio of Industrial Sectors (Japan)

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Industrial Sector	Fiscal Year	1980	1990	2000	2010	2012	2013	2014	2015	2016	2017	2018	2019	2020
Manufacturing Industries	Value-Added Ratio (%)	20.4	20.7	19.9	17.7	17.2	19.3	23.9	24.8	24.7	25.3	26.1	26.7	29.5
	No. of Firms Investigated	1014	1046	1144	1052	1023	1021	1025	1026	1021	1022	1027	1017	1010
Foods	Value-Added Ratio (%)	17.7	17.7	17.6	19.0	17.9	21.0	20.8	21.4	23.0	22.5	23.0	23.9	25.4
	No. of Firms Investigated	85	91	102	84	86	87	84	80	79	78	80	80	80
Textiles	Value-Added Ratio (%)	19.2	21.4	22.9	21.7	19.7	26.6	33.2	29.3	33.2	37.1	33.7	26.6	30.1
	No. of Firms Investigated	79	76	60	35	33	33	33	31	31	31	31	31	31
Paper & Pulp	Value-Added Ratio (%)	19.6	21.7	23.5	20.2	18.6	23.4	25.7	25.4	18.6	18.0	15.2	17.2	17.0
	No. of Firms Investigated	29	30	24	16	15	15	15	15	15	15	16	16	16
Printing	Value-Added Ratio (%)	21.7	19.5	17.4	14.4	14.2	40.7	31.3	32.2	31.2	31.5	30.7	30.9	28.7
	No. of Firms Investigated	8	8	12	17	17	17	18	18	17	17	17	16	16
Chemicals	Value-Added Ratio (%)	21.3	23.0	25.6	23.9	21.8	24.9	28.3	28.9	28.5	26.8	27.8	29.7	31.8
	No. of Firms Investigated	131	141	152	156	154	155	154	156	154	153	155	153	153
Chemicals-Major	Value-Added Ratio (%)	15.9	19.4	18.9	13.6	10.9	11.0	-	-	-	-	-	-	-
	No. of Firms Investigated	5	6	6	4	4	4	4	4	4	4	4	4	4
Organic Chemicals	Value-Added Ratio (%)	18.5	22.2	22.8	24.1	22.6	25.9	24.5	26.1	29.7	27.6	26.1	27.7	29.5
	No. of Firms Investigated	28	30	29	33	33	33	33	36	34	33	33	33	33
Inorganic Chemicals	Value-Added Ratio (%)	20.7	19.9	21.6	21.6	18.2	26.5	29.0	29.5	32.4	30.7	28.5	27.8	28.1
	No. of Firms Investigated	30	33	33	29	28	28	29	28	28	28	28	28	27
Oil, Fats & Cosmetics	Value-Added Ratio (%)	18.7	17.3	22.4	22.7	21.4	20.5	25.1	23.7	21.2	21.4	22.5	22.4	21.1
	No. of Firms Investigated	9	9	11	15	15	17	17	16	16	16	16	16	17
Paints	Value-Added Ratio (%)	16.1	18.2	20.5	18.8	19.9	20.2	22.2	25.0	27.3	27.3	26.7	26.4	28.9
	No. of Firms Investigated	15	16	18	18	17	16	15	15	15	15	15	15	15
Pharmaceuticals	Value-Added Ratio (%)	36.0	33.3	37.5	31.6	28.6	33.6	29.5	30.8	29.9	27.6	29.0	31.2	33.8
	No. of Firms Investigated	32	34	40	35	34	35	35	34	34	34	35	34	34
Petroleum	Value-Added Ratio (%)	4.7	7.2	5.1	4.8	2.6	3.4	△ 0.9	1.3	9.1	6.7	3.7	(4.0)	6.5
	No. of Firms Investigated	10	10	9	5	5	6	6	6	6	5	5	4	4
Rubber Products	Value-Added Ratio (%)	25.6	29.6	30.0	23.8	26.8	29.6	15.7	17.9	21.5	21.6	21.1	20.6	21.1
	No. of Firms Investigated	18	18	18	18	18	18	18	18	18	18	18	18	18
Stone, Clay & Glass Pds.	Value-Added Ratio (%)	24.6	23.0	24.3	27.4	23.2	18.8	17.0	19.0	19.0	19.5	22.7	20.5	22.1
	No. of Firms Investigated	61	56	52	50	48	47	47	48	46	46	46	46	46
Iron & Steel	Value-Added Ratio (%)	28.4	28.5	25.3	18.3	14.3	13.7	15.7	19.3	17.8	15.0	16.0	17.3	16.6
	No. of Firms Investigated	57	55	53	45	41	39	38	38	39	39	39	38	38
Nonferrous Metals	Value-Added Ratio (%)	15.1	16.4	19.6	11.9	11.9	33.2	35.2	28.3	28.3	31.5	34.2	33.5	33.2
	No. of Firms Investigated	37	38	37	28	27	25	25	27	28	27	27	27	27
Fabricated Metal Products	Value-Added Ratio (%)	22.9	25.3	22.5	22.8	23.4	24.5	24.7	24.5	24.9	27.3	27.8	29.4	31.0
	No. of Firms Investigated	45	49	58	54	51	50	50	50	51	50	52	52	52
Machinery	Value-Added Ratio (%)	26.8	24.4	23.4	21.6	20.7	20.5	25.3	24.4	30.0	35.8	35.7	35.4	38.0
	No. of Firms Investigated	148	154	173	160	157	157	158	154	155	159	159	159	156
Electric Equipment	Value-Added Ratio (%)	25.6	21.9	19.5	17.2	17.3	24.4	27.8	26.5	23.0	25.9	26.1	25.0	25.3
	No. of Firms Investigated	135	139	179	170	165	168	167	167	166	168	166	163	164
Computers & Electric Eq.	Value-Added Ratio (%)	23.8	19.5	17.8	17.3	-	-	-	18.1	18.3	18.1	19.6	20.3	19.6
	No. of Firms Investigated	5	5	5	5	5	5	5	6	6	7	7	7	7
Industrial Electric Eq.	Value-Added Ratio (%)	31.7	26.5	23.3	25.6	25.4	24.0	28.8	28.4	28.7	30.4	28.4	29.7	30.7
	No. of Firms Investigated	25	30	34	41	39	39	37	37	38	39	39	38	38
Communications Equipment	Value-Added Ratio (%)	29.4	27.0	22.9	24.2	25.8	27.8	29.8	30.1	25.9	29.8	29.6	28.0	33.4
	No. of Firms Investigated	22	22	28	23	23	23	23	22	22	20	20	19	19
Electric Measuring Instr.	Value-Added Ratio (%)	39.1	36.0	26.5	28.5	26.9	28.7	37.9	42.6	40.5	36.1	31.8	29.9	33.2
	No. of Firms Investigated	9	10	14	12	13	13	14	14	14	14	14	14	14
Electric Eq. & Comp.	Value-Added Ratio (%)	28.7	25.5	24.8	23.3	22.2	24.8	29.6	27.8	23.6	27.4	28.1	28.0	26.5
	No. of Firms Investigated	33	36	56	58	60	63	62	63	60	62	61	60	62
Household Electric Appl.	Value-Added Ratio (%)	19.0	16.5	15.0	11.8	11.2	20.3	17.9	18.4	19.3	18.6	18.3	17.4	18.6
	No. of Firms Investigated	27	29	29	23	18	18	19	19	19	19	17	17	17
Transportation Equipment	Value-Added Ratio (%)	17.7	17.3	17.6	13.8	15.5	19.3	18.2	18.5	17.5	16.9	16.5	15.2	14.6
	No. of Firms Investigated	94	102	113	108	104	101	103	105	103	101	101	99	95
Automobiles	Value-Added Ratio (%)	16.9	15.2	15.2	10.0	13.3	17.8	16.2	16.3	15.5	14.9	14.6	13.1	13.0
	No. of Firms Investigated	10	10	11	10	10	10	10	10	9	9	9	9	9
Auto Parts & Accessories	Value-Added Ratio (%)	24.3	23.8	25.6	21.3	22.5	22.5	32.1	34.4	35.2	32.3	30.1	30.5	32.0
	No. of Firms Investigated	55	61	69	74	71	68	71	73	71	70	70	69	65
Precision Instruments	Value-Added Ratio (%)	30.4	24.0	24.7	28.3	27.9	51.7	59.5	58.1	58.1	61.8	61.2	58.9	59.1
	No. of Firms Investigated	28	28	27	27	27	27	29	32	32	33	34	34	32
Misc. Manufacturing	Value-Added Ratio (%)	23.1	24.8	20.6	22.1	17.8	14.8	16.8	16.2	12.7	15.2	23.6	28.8	37.0
	No. of Firms Investigated	44	32	44	51	48	49	53	54	54	54	53	53	55

Note :

Formulation : Value added ratio (%) = Value added / Adjusted sales × 100

Source : Development Bank of Japan, Handbook of Industrial Financial Data

A. Pharmaceutical Industry Outlook

A-4. Exports and Imports (Pharmaceutical Products / Technology)

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International Trade of Pharmaceutical Products (Japan)

A-4-1

Year	Exports		Imports		Trade Deficit	
	Values (A) (JPY mil)	Change (%)	Values (A) (JPY mil)	Change (%)	(B)- (A) (JPY mil)	(B) / (A) (Times)
1994	158,454	△ 3.4	431,619	△ 1.4	273,165	2.72
1995	172,870	9.1	461,522	6.9	288,652	2.67
1996	205,656	19.0	489,823	6.1	284,167	2.38
1997	236,197	14.9	512,877	4.7	276,680	2.17
1998	249,890	5.8	489,947	△ 4.5	240,057	1.96
1999	274,100	9.7	522,592	6.7	248,492	1.91
2000	294,407	7.4	514,885	△ 1.5	220,478	1.75
2001	331,628	12.6	613,405	19.1	281,777	1.85
2002	351,833	6.1	678,710	10.6	326,877	1.93
2003	368,768	4.8	716,502	5.6	347,734	1.94
2004	383,028	3.9	769,196	7.4	386,168	2.01
2005	367,664	△ 4.0	905,966	17.8	538,302	2.46
2006	372,115	1.2	991,234	9.4	619,119	2.66
2007	374,417	0.6	1,078,431	8.8	704,014	2.88
2008	379,876	1.5	1,142,372	5.9	762,496	3.01
2009	384,449	1.2	1,328,601	16.3	944,152	3.46
2010	378,738	△ 1.5	1,522,579	14.6	1,143,841	4.02
2011	358,987	△ 5.2	1,725,019	13.3	1,366,032	4.81
2012	320,393	△ 10.8	1,940,705	12.5	1,620,312	6.06
2013	359,631	12.2	2,138,232	10.2	1,778,601	5.95
2014	353,006	△ 1.8	2,213,971	3.5	1,860,965	6.27
2015	462,318	31.0	2,924,116	32.1	2,461,798	6.32
2016	490,128	6.0	2,780,238	△ 4.9	2,290,110	5.67
2017	559,294	14.1	2,644,919	△ 4.9	2,085,625	4.73
2018	648,722	16.0	2,962,208	12.0	2,313,486	4.57
2019	733,105	13.0	3,091,877	4.4	2,358,771	4.22
2020	835,975	14.0	3,197,264	3.4	2,361,289	3.82

Source : Ministry of Finance, Trade Statistics of Japan
<https://www.customs.go.jp/toukei/suii/html/time.htm>

International Trade of Pharmaceutical Products by Partner Countries (Japan) (1/2) A-4-2

(1) Exports

	Export destination	Year										
		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Value (JPY mil.)	USA	127,227	94,053	67,271	72,691	71,839	149,077	171,164	177,798	204,221	272,162	268,697
	China	33,752	35,949	41,398	52,744	63,969	71,698	75,350	89,621	114,034	145,724	158,014
	Switzerland	26,814	36,509	35,547	44,201	30,916	34,629	30,749	40,621	42,676	55,879	122,555
	Korea	27,006	27,949	26,990	27,361	29,649	33,048	37,317	38,999	39,526	36,909	45,516
	UK	5,654	5,243	5,592	7,210	4,935	6,607	8,252	21,967	49,234	28,836	36,135
	Taiwan	10,808	12,050	12,426	14,470	15,965	19,560	21,028	22,274	25,921	26,268	28,737
	Hong Kong	5,274	5,990	6,462	8,167	10,005	12,538	15,671	17,788	19,088	23,015	28,638
	Germany	9,084	15,111	15,374	20,014	15,565	14,826	15,770	18,925	23,479	21,782	22,000
	France	9,592	11,100	8,348	10,757	12,018	18,970	15,317	21,241	20,351	18,202	20,365
	Belgium	18,301	16,843	15,327	14,321	13,157	12,247	12,112	17,401	16,996	14,585	13,454
	Thailand	5,779	5,414	6,181	7,003	8,027	9,546	8,712	9,035	10,828	14,240	12,874
	Italy	25,543	12,532	11,880	11,056	11,058	12,207	13,544	9,268	11,682	9,831	10,652
	Netherlands	15,742	22,366	14,762	11,607	11,282	13,682	11,105	9,713	10,294	7,026	9,012
	Ireland	16,890	17,672	16,197	20,300	15,625	8,210	6,094	9,779	7,629	5,445	5,849
	Singapore	2,332	2,579	2,287	2,221	2,177	2,303	3,052	3,499	3,873	4,608	5,590
	Spain	4,917	4,494	2,912	2,611	2,239	3,048	2,532	2,508	3,922	3,761	3,486
	Brazil	1,735	1,728	2,105	2,271	1,889	1,588	1,598	2,566	3,457	3,509	3,195
	Canada	1,620	559	621	547	364	2,645	1,748	2,167	1,836	3,410	2,238
	India	2,576	2,028	2,144	1,853	2,282	2,158	3,313	2,514	2,201	2,757	2,031
	Indonesia	2,483	3,351	3,626	3,190	2,978	3,207	2,583	2,695	2,911	2,623	1,812
	Australia	1,216	1,399	1,833	1,760	1,307	1,479	1,948	1,879	2,174	2,217	1,752
	Philippine	1,483	1,007	927	1,218	1,062	1,354	1,153	802	921	1,348	1,723
	Mexico	1,242	1,885	2,085	2,291	1,891	1,780	2,003	1,274	1,814	1,272	926
	Turkey	2,680	1,111	887	599	475	276	308	633	402	697	687
	Others	18,989	20,065	17,211	19,169	22,333	25,635	27,706	34,327	29,254	26,999	30,038
	Total	378,738	358,987	320,393	359,631	353,006	462,318	490,128	559,294	648,722	733,105	835,975
Share (%)	USA	33.6	26.2	21.0	20.2	20.4	32.2	34.9	31.8	31.5	37.1	32.1
	China	8.9	10.0	12.9	14.7	18.1	15.5	15.4	16.0	17.6	19.9	18.9
	Switzerland	7.1	10.2	11.1	12.3	8.8	7.5	6.3	7.3	6.6	7.6	14.7
	Korea	7.1	7.8	8.4	7.6	8.4	7.1	7.6	7.0	6.1	5.0	5.4
	UK	1.5	1.5	1.7	2.0	1.4	1.4	1.7	3.9	7.6	3.9	4.3
	Taiwan	2.9	3.4	3.9	4.0	4.5	4.2	4.3	4.0	4.0	3.6	3.4
	Hong Kong	1.4	1.7	2.0	2.3	2.8	2.7	3.2	3.2	2.9	3.1	3.4
	Germany	2.4	4.2	4.8	5.6	4.4	3.2	3.2	3.4	3.6	3.0	2.6
	France	2.5	3.1	2.6	3.0	3.4	4.1	3.1	3.8	3.1	2.5	2.4
	Belgium	4.8	4.7	4.8	4.0	3.7	2.6	2.5	3.1	2.6	2.0	1.6
	Thailand	1.5	1.5	1.9	1.9	2.3	2.1	1.8	1.6	1.7	1.9	1.5
	Italy	6.7	3.5	3.7	3.1	3.1	2.6	2.8	1.7	1.8	1.3	1.3
	Netherlands	4.2	6.2	4.6	3.2	3.2	3.0	2.3	1.7	1.6	1.0	1.1
	Ireland	4.5	4.9	5.1	5.6	4.4	1.8	1.2	1.7	1.2	0.7	0.7
	Singapore	0.6	0.7	0.7	0.6	0.6	0.5	0.6	0.6	0.6	0.6	0.7
	Spain	1.3	1.3	0.9	0.7	0.6	0.7	0.5	0.4	0.6	0.5	0.4
	Brazil	0.5	0.5	0.7	0.6	0.5	0.3	0.3	0.5	0.5	0.5	0.4
	Canada	0.4	0.2	0.2	0.2	0.1	0.6	0.4	0.4	0.3	0.5	0.3
	India	0.7	0.6	0.7	0.5	0.6	0.5	0.7	0.4	0.3	0.4	0.2
	Indonesia	0.7	0.9	1.1	0.9	0.8	0.7	0.5	0.5	0.4	0.4	0.2
	Australia	0.3	0.4	0.6	0.5	0.4	0.3	0.4	0.3	0.3	0.3	0.2
	Philippine	0.4	0.3	0.3	0.3	0.3	0.3	0.2	0.1	0.1	0.2	0.2
	Mexico	0.3	0.5	0.7	0.6	0.5	0.4	0.4	0.2	0.3	0.2	0.1
	Turkey	0.7	0.3	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	Others	5.0	5.6	5.4	5.3	6.3	5.5	5.7	6.1	4.5	3.7	3.6
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source : Ministry of Finance, Trade Statistics of Japan
<https://www.customs.go.jp/toukei/suii/html/time.htm>

International Trade of Pharmaceutical Products by Partner Countries (Japan) (2/2) A-4-2

(2) Imports

	Import destination	Year										
		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Value (JPY mil.)	Germany	219,304	259,611	319,845	370,488	396,149	415,747	425,900	462,156	472,480	521,353	564,645
	USA	249,057	290,103	339,159	353,092	397,352	444,629	406,116	413,328	463,481	484,713	488,486
	Ireland	33,095	27,721	31,845	38,010	43,033	578,265	378,424	196,687	330,260	331,832	321,431
	Switzerland	206,728	201,129	231,252	214,912	216,625	278,159	291,469	303,757	288,070	315,499	321,329
	Puerto Rico	64,036	73,146	94,814	87,224	111,312	111,118	134,095	131,328	150,941	165,777	161,903
	UK	103,280	107,581	109,779	104,942	87,137	113,721	99,351	149,782	154,139	160,230	154,713
	France	132,375	138,243	174,781	196,398	200,873	193,719	193,619	188,591	181,016	149,713	135,436
	Singapore	68,407	80,868	103,578	114,157	113,879	126,170	160,463	111,602	129,557	126,087	123,196
	Italy	89,215	134,970	165,366	214,308	135,536	83,580	95,576	108,975	111,078	110,356	119,520
	Sweden	16,875	24,707	21,406	42,292	40,815	54,183	70,726	85,065	86,587	103,119	113,940
	Belgium	81,308	121,272	57,263	64,152	82,614	88,856	96,272	84,075	91,229	100,677	108,352
	Canada	16,766	13,669	27,942	28,669	52,077	42,835	46,724	44,205	79,954	100,189	107,244
	Denmark	58,333	47,349	45,771	47,372	55,160	60,593	71,838	69,797	80,902	83,097	99,183
	China	53,901	51,874	55,528	61,339	75,786	89,881	85,937	85,691	89,671	80,582	76,816
	Korea	16,860	15,480	18,310	24,322	28,167	47,736	34,531	32,041	37,957	46,078	58,286
	Spain	43,911	57,221	56,446	63,727	59,956	70,323	55,898	44,021	50,748	43,395	45,105
	Netherlands	9,852	15,698	15,577	21,076	22,080	23,910	23,522	16,240	24,778	31,545	36,146
	Mexico	849	729	892	9,103	7,191	12,636	8,416	11,294	12,780	13,636	12,249
	Taiwan	2,908	2,493	2,986	3,644	4,680	6,403	8,390	8,182	9,411	10,198	10,488
	Australia	12,214	10,702	10,236	13,114	9,670	9,092	12,445	10,186	7,705	8,587	7,535
	Brazil	178	143	148	314	222	289	384	1,036	981	4,649	6,926
	Others	43,126	50,310	57,781	65,578	73,655	72,272	80,141	84,863	108,486	100,565	124,334
	Total	1,522,579	1,725,019	1,940,705	2,138,232	2,213,971	2,924,116	2,780,238	2,644,919	2,962,208	3,091,877	3,197,264
Share (%)	Germany	14.4	15.0	16.5	17.3	17.9	14.2	15.3	17.5	16.0	16.9	17.7
	USA	16.4	16.8	17.5	16.5	17.9	15.2	14.6	15.6	15.6	15.7	15.3
	Ireland	2.2	1.6	1.6	1.8	1.9	19.8	13.6	7.4	11.1	10.7	10.1
	Switzerland	13.6	11.7	11.9	10.1	9.8	9.5	10.5	11.5	9.7	10.2	10.1
	Puerto Rico	4.2	4.2	4.9	4.1	5.0	3.8	4.8	5.0	5.1	5.4	5.1
	UK	6.8	6.2	5.7	4.9	3.9	3.9	3.6	5.7	5.2	5.2	4.8
	France	8.7	8.0	9.0	9.2	9.1	6.6	7.0	7.1	6.1	4.8	4.2
	Singapore	4.5	4.7	5.3	5.3	5.1	4.3	5.8	4.2	4.4	4.1	3.9
	Italy	5.9	7.8	8.5	10.0	6.1	2.9	3.4	4.1	3.7	3.6	3.7
	Sweden	1.1	1.4	1.1	2.0	1.8	1.9	2.5	3.2	2.9	3.3	3.6
	Belgium	5.3	7.0	3.0	3.0	3.7	3.0	3.5	3.2	3.1	3.3	3.4
	Canada	1.1	0.8	1.4	1.3	2.4	1.5	1.7	1.7	2.7	3.2	3.4
	Denmark	3.8	2.7	2.4	2.2	2.5	2.1	2.6	2.6	2.7	2.7	3.1
	China	3.5	3.0	2.9	2.9	3.4	3.1	3.1	3.2	3.0	2.6	2.4
	Korea	1.1	0.9	0.9	1.1	1.3	1.6	1.2	1.2	1.3	1.5	1.8
	Spain	2.9	3.3	2.9	3.0	2.7	2.4	2.0	1.7	1.7	1.4	1.4
	Netherlands	0.6	0.9	0.8	1.0	1.0	0.8	0.8	0.6	0.8	1.0	1.1
	Mexico	0.1	0.0	0.0	0.4	0.3	0.4	0.3	0.4	0.4	0.4	0.4
	Taiwan	0.2	0.1	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3
	Australia	0.8	0.6	0.5	0.6	0.4	0.3	0.4	0.4	0.3	0.3	0.2
	Brazil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2
	Others	2.8	2.9	3.0	3.1	3.3	2.5	2.9	3.2	3.7	3.3	3.9
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source : Ministry of Finance, Trade Statistics of Japan
<https://www.customs.go.jp/toukei/suii/html/time.htm>

Export / Import of Major Countries (Worldwide) (1/2)

A-4-3

		(Unit: USD mil.)																			
		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Austria	Export	1,639	1,846	2,626	3,341	3,541	4,483	5,317	6,246	7,322	7,682	8,101	9,039	8,442	8,870	9,285	8,104	8,583	9,083	10,038	11,261
	Import	1,997	2,365	2,917	3,301	3,703	4,184	4,892	5,515	6,229	6,831	7,245	8,349	5,191	5,526	6,010	5,278	5,712	6,018	7,277	7,631
	Surplus	△ 358	△ 519	△ 291	40	△ 162	298	425	731	1,093	851	855	690	3,251	3,343	3,275	2,826	2,870	3,065	2,762	3,631
Belgium	Export	6,847	9,360	21,800	25,474	30,766	34,798	38,363	47,367	50,634	52,186	51,441	49,956	44,842	50,359	49,846	43,154	41,975	43,179	47,588	52,712
	Import	5,562	8,354	21,018	25,500	32,071	35,956	35,458	41,603	44,275	43,529	42,346	37,136	34,783	40,970	39,416	36,301	34,892	34,685	40,448	45,682
	Surplus	1,285	1,006	783	△ 25	△ 1,305	△ 1,158	2,905	5,764	6,359	8,657	9,095	12,820	10,059	9,389	10,430	6,854	7,084	8,494	7,140	7,030
Denmark	Export	2,915	3,355	3,817	4,848	5,571	6,382	6,493	7,167	7,961	7,917	5,245	5,951	10,727	11,735	12,172	11,721	12,467	12,946	14,445	17,484
	Import	950	1,099	1,357	1,718	2,146	2,343	2,595	2,845	3,348	3,275	3,595	3,566	3,861	4,378	4,650	3,809	3,773	4,110	4,495	4,479
	Surplus	1,966	2,257	2,460	3,130	3,426	4,039	3,899	4,322	4,613	4,642	1,650	2,385	6,866	7,358	7,522	7,912	8,694	8,836	9,950	13,004
Finland	Export	264	296	419	511	615	783	972	892	1,180	1,176	1,320	1,594	1,415	1,238	1,160	942	930	843	867	749
	Import	690	765	979	1,254	1,596	1,767	2,041	1,994	2,459	2,318	2,211	2,347	2,314	2,403	2,458	2,199	2,166	2,115	2,293	2,194
	Surplus	△ 427	△ 470	△ 560	△ 743	△ 981	△ 985	△ 1,069	△ 1,102	△ 1,280	△ 1,143	△ 891	△ 753	△ 899	△ 1,164	△ 1,298	△ 1,257	△ 1,236	△ 1,272	△ 1,426	△ 1,446
France	Export	10,093	13,083	14,942	18,043	20,855	22,759	24,585	28,273	33,212	34,187	34,353	33,847	34,928	37,048	35,161	29,894	30,126	31,407	33,852	35,507
	Import	7,796	9,599	10,781	13,117	15,954	17,122	18,615	22,061	24,838	27,177	28,389	29,772	26,424	26,060	27,852	22,194	22,068	23,118	25,247	25,103
	Surplus	2,297	3,485	4,160	4,925	4,901	5,637	5,970	6,212	8,374	7,009	5,964	4,076	8,504	10,988	7,309	7,699	8,059	8,290	8,605	10,405
Germany	Export	13,715	18,072	17,483	23,533	34,036	38,151	44,957	55,521	67,439	64,284	65,834	69,648	70,387	74,819	79,699	75,777	77,098	84,172	96,926	91,211
	Import	9,438	10,687	18,107	20,679	26,272	30,593	34,630	40,934	46,669	46,658	47,300	51,529	43,533	45,233	49,294	45,671	49,096	53,791	58,056	60,312
	Surplus	4,277	7,385	△ 625	2,854	7,763	7,558	10,327	14,587	20,770	17,625	18,534	18,119	26,854	29,586	30,405	30,107	28,002	30,381	38,870	30,899
Greece	Export	242	312	269	629	848	1,176	1,134	1,285	1,272	1,292	1,342	1,220	1,237	1,392	1,380	1,126	1,170	1,333	1,732	2,163
	Import	1,133	1,161	859	2,182	2,797	3,407	3,706	4,569	5,378	5,490	4,723	4,344	3,667	3,548	3,465	2,981	3,027	3,282	3,352	3,083
	Surplus	△ 891	△ 848	△ 590	△ 1,553	△ 1,948	△ 2,231	△ 2,572	△ 3,284	△ 4,106	△ 4,198	△ 3,381	△ 3,124	△ 2,430	△ 2,156	△ 2,085	△ 1,855	△ 1,857	△ 1,950	△ 1,620	△ 920
Ireland	Export	4,909	5,449	14,749	15,416	18,789	17,947	17,860	20,176	24,549	29,376	31,956	36,574	29,422	25,716	27,195	31,865	31,796	38,366	53,491	53,409
	Import	1,417	1,782	1,953	2,441	2,396	2,427	2,783	3,264	4,216	3,938	4,566	6,080	4,366	4,880	5,135	5,556	6,014	9,420	12,777	7,618
	Surplus	3,492	3,667	12,795	12,975	16,392	15,520	15,077	16,912	20,333	25,437	27,390	30,494	25,056	20,836	22,060	26,310	25,782	28,945	40,713	45,791
Italy	Export	6,354	7,341	8,968	10,252	11,260	13,146	14,051	15,647	16,688	16,053	17,592	20,412	19,988	23,578	25,267	19,803	21,215	25,687	27,717	33,569
	Import	5,988	7,061	8,747	10,820	12,988	13,837	15,701	18,178	20,068	21,378	21,701	25,132	20,578	21,256	21,544	20,628	21,289	23,208	26,682	27,215
	Surplus	366	280	220	△ 567	△ 1,727	△ 691	△ 1,650	△ 2,531	△ 3,379	△ 5,325	△ 4,109	△ 4,719	△ 590	2,321	3,723	△ 825	△ 73	2,479	1,035	6,354
Netherlands	Export	4,215	5,102	6,380	7,843	10,220	11,281	13,056	16,849	24,553	27,691	27,802	16,339	23,441	22,522	25,745	22,938	23,613	25,686	28,498	30,086
	Import	3,993	5,052	6,082	6,971	9,818	11,164	12,938	16,626	23,950	25,630	26,251	13,849	17,007	16,936	19,320	14,432	15,426	15,215	16,696	18,326
	Surplus	221	50	297	872	402	117	119	223	604	2,062	1,551	2,490	6,433	5,586	6,425	8,506	8,187	10,470	11,803	11,760
Norway	Export	240	236	301	375	452	533	550	699	705	664	743	698	718	742	906	716	690	756	935	748
	Import	742	748	940	1,083	1,208	1,343	1,424	1,682	1,826	1,687	1,843	1,904	1,919	1,912	2,087	1,824	1,887	2,328	2,388	2,233
	Surplus	△ 502	△ 512	△ 639	△ 708	△ 756	△ 810	△ 874	△ 983	△ 1,121	△ 1,023	△ 1,100	△ 1,206	△ 1,201	△ 1,170	△ 1,181	△ 1,108	△ 1,197	△ 1,573	△ 1,453	△ 1,486

Note : Numerical data may differ from those of past DATA BOOK due to revision in accordance with changes in data in the quoted sources.

Source : OECD, "International Trade by Commodities Statistics" (1999-2014 Classification No.54, Since 2015 Harmonised System 2012 classification No.30)

Export / Import of Major Countries (Worldwide) (2/2)

A-4-3

		(Unit: USD mil.)																			
		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Portugal	Export	282	308	326	349	383	354	423	542	598	612	670	824	854	906	1,093	939	1,180	1,136	1,138	1,173
	Import	923	1,080	1,303	1,649	1,985	2,046	2,301	2,579	2,932	3,009	2,972	3,042	2,649	2,591	2,697	2,497	2,566	2,614	3,162	2,944
	Surplus	△ 641	△ 772	△ 977	△ 1,300	△ 1,602	△ 1,692	△ 1,878	△ 2,038	△ 2,334	△ 2,397	△ 2,303	△ 2,217	△ 1,795	△ 1,685	△ 1,605	△ 1,559	△ 1,385	△ 1,478	△ 2,024	△ 1,771
Spain	Export	2,057	2,435	3,673	4,367	4,944	6,722	7,596	9,820	11,358	10,972	11,764	12,243	12,000	13,030	12,682	11,357	10,800	11,353	11,971	12,756
	Import	3,613	4,407	5,725	7,259	8,349	8,985	9,629	12,171	15,274	16,977	15,174	15,637	14,342	14,495	15,186	14,677	13,922	14,132	15,703	15,690
	Surplus	△ 1,557	△ 1,972	△ 2,052	△ 2,893	△ 3,406	△ 2,263	△ 2,033	△ 2,352	△ 3,916	△ 6,005	△ 3,410	△ 3,394	△ 2,342	△ 1,465	△ 2,504	△ 3,320	△ 3,122	△ 2,779	△ 3,731	△ 2,934
Sweden	Export	3,922	4,169	4,606	6,587	7,205	7,190	8,713	8,720	9,174	8,908	9,215	8,878	7,372	7,393	7,597	7,343	7,174	7,779	8,651	10,225
	Import	1,341	1,449	1,841	2,218	2,482	2,730	3,185	3,606	4,177	4,056	4,078	4,436	4,474	4,511	4,362	3,868	4,258	4,273	4,610	4,844
	Surplus	2,581	2,720	2,765	4,368	4,723	4,459	5,528	5,114	4,996	4,852	5,136	4,442	2,899	2,883	3,235	3,476	2,916	3,506	4,041	5,380
Switzerland	Export	10,520	13,450	15,414	18,252	22,697	25,907	31,177	36,233	44,177	44,544	49,061	57,726	54,356	57,497	62,595	60,596	67,455	70,282	75,416	82,956
	Import	5,208	6,861	8,266	9,719	11,443	13,021	14,786	16,693	17,783	17,327	18,779	22,340	20,393	22,113	23,527	21,726	24,674	28,720	30,072	31,526
	Surplus	5,312	6,589	7,149	8,533	11,253	12,886	16,392	19,539	26,394	27,217	30,282	35,386	33,964	35,384	39,068	38,870	42,781	41,562	45,343	51,429
UK	Export	10,850	13,009	15,161	19,363	22,421	22,238	25,471	28,978	31,628	31,602	33,966	36,099	33,102	32,094	33,567	35,973	32,580	32,716	32,259	27,106
	Import	7,399	9,178	11,335	13,693	15,814	15,937	17,450	20,421	20,874	20,950	23,878	26,450	26,877	27,728	33,728	33,744	32,754	33,096	33,032	27,995
	Surplus	3,451	3,831	3,826	5,670	6,607	6,301	8,021	8,556	10,754	10,652	10,088	9,649	6,224	4,366	△ 160	2,229	△ 174	△ 380	△ 773	△ 889
Canada	Export	1,230	1,450	1,553	2,340	2,989	3,485	4,675	6,180	6,181	6,439	5,703	5,636	5,079	5,433	7,069	7,720	8,392	6,289	7,875	8,441
	Import	3,801	4,317	4,897	6,154	6,965	7,838	9,536	10,533	11,227	12,058	12,324	13,086	12,296	12,114	12,478	11,395	11,371	11,702	12,512	13,860
	Surplus	△ 2,571	△ 2,866	△ 3,344	△ 3,814	△ 3,975	△ 4,353	△ 4,861	△ 4,354	△ 5,046	△ 5,619	△ 6,620	△ 7,449	△ 7,218	△ 6,681	△ 5,410	△ 3,675	△ 2,979	△ 5,413	△ 4,637	△ 5,419
USA	Export	13,122	15,421	16,149	19,200	23,980	25,946	29,105	33,380	38,077	44,084	44,397	42,934	40,129	39,709	43,996	47,293	46,829	44,936	48,346	53,562
	Import	14,855	18,753	24,874	31,740	35,371	39,323	46,222	53,954	59,868	60,157	65,563	69,912	65,004	63,314	73,042	86,014	92,512	96,586	115,635	128,238
	Surplus	△ 1,733	△ 3,332	△ 8,725	△ 12,539	△ 11,391	△ 13,376	△ 17,117	△ 20,574	△ 21,792	△ 16,073	△ 21,166	△ 26,978	△ 24,875	△ 23,605	△ 29,047	△ 38,721	△ 45,683	△ 51,650	△ 67,289	△ 74,676
Australia	Export	1,078	1,153	1,057	1,451	1,911	2,463	2,600	3,302	3,349	3,192	3,673	3,857	4,385	3,354	2,545	1,743	2,366	2,530	2,973	3,781
	Import	2,319	2,389	2,831	3,604	4,795	5,455	5,486	6,707	7,069	7,405	8,794	10,865	10,276	9,371	8,472	7,257	7,781	8,026	8,329	8,533
	Surplus	△ 1,242	△ 1,235	△ 1,774	△ 2,153	△ 2,885	△ 2,992	△ 2,886	△ 3,405	△ 3,720	△ 4,212	△ 5,121	△ 7,008	△ 5,891	△ 6,017	△ 5,927	△ 5,514	△ 5,415	△ 5,496	△ 5,356	△ 4,752
Japan	Export	2,731	2,726	2,812	3,189	3,540	3,327	3,193	3,187	3,663	4,121	4,324	4,507	3,391	3,243	2,923	3,410	4,064	4,557	5,545	6,369
	Import	4,775	5,041	5,426	6,193	7,114	8,205	8,518	9,146	10,999	14,197	17,338	21,599	23,043	20,864	19,899	23,186	24,388	22,394	25,497	27,225
	Surplus	△ 2,044	△ 2,316	△ 2,614	△ 3,004	△ 3,574	△ 4,877	△ 5,325	△ 5,959	△ 7,336	△ 10,076	△ 13,014	△ 17,092	△ 19,652	△ 17,621	△ 16,976	△ 19,777	△ 20,324	△ 17,837	△ 19,952	△ 20,856
Others	Export	2,285	2,697	2,937	3,554	4,648	5,339	10,905	13,341	17,171	16,723	20,141	23,302	23,014	24,780	27,069	26,976	27,203	30,159	31,085	31,348
	Import	7,443	8,398	9,838	12,356	15,324	16,913	21,894	26,323	32,774	30,642	32,879	36,678	33,609	36,116	38,534	38,702	39,550	42,179	47,866	51,499
	Surplus	△ 5,158	△ 5,702	△ 6,901	△ 8,802	△ 10,676	△ 11,574	△ 10,989	△ 12,982	△ 15,603	△ 13,919	△ 12,739	△ 13,376	△ 10,594	△ 11,336	△ 11,465	△ 11,726	△ 12,347	△ 12,020	△ 16,781	△ 20,152
OECD Total	Export	99,509	121,272	155,440	188,918	231,672	254,411	291,195	343,802	400,891	413,702	428,641	441,285	429,230	445,458	468,951	449,391	457,708	485,195	541,347	566,614
	Import	91,384	110,546	150,077	183,651	220,591	244,597	273,787	321,405	366,233	374,688	391,950	408,052	376,606	386,319	413,157	403,940	419,126	441,012	496,129	516,231
	Surplus	8,125	10,726	5,363	5,267	11,080	9,813	17,407	22,397	34,658	39,014	36,692	33,234	52,624	59,139	55,794	45,452	38,582	44,183	45,218	50,383

Note : Numerical data may differ from those of past DATA BOOK due to revision in accordance with changes in data in the quoted sources.

Source : OECD, "International Trade by Commodities Statistics" (1999-2014 Classification No.54, Since 2015 Harmonised System 2012 classification No.30)

Exports / Imports of Pharmaceutical Products by Partner Country (Worldwide)

A-4-4

2019

(1) Exports

(Unit: USD 1,000)

Importer	Exporter													
	Austria	Belgium	Denmark	France	Germany	Ireland	Italy	Netherlands	Spain	Sweden	Switzerland	UK	USA	Canada
Austria	—	485,093	9,750	384,071	2,387,338	189,113	778,432	560,803	153,779	134,456	562,418	171,461	1,293,901	758
Belgium	610,126	—	174,668	3,647,590	3,423,997	8,152,754	5,179,113	921,261	253,213	171,326	2,557,105	1,003,412	4,087,383	177,988
Denmark	71,606	315,656	—	469,615	803,063	232,288	157,523	254,495	102,934	159,109	413,071	154,533	276,062	3,639
France	378,425	3,198,321	70,727	—	4,727,183	2,011,183	2,545,934	2,176,350	837,681	434,283	3,065,914	1,036,417	1,077,834	133,223
Germany	1,804,555	6,404,202	295,697	3,468,126	—	2,155,074	3,478,965	5,186,774	1,618,616	1,273,995	10,282,913	3,059,121	4,882,806	56,262
Ireland	50,865	614,574	7,958	429,744	1,151,189	—	172,569	492,110	469,125	36,448	324,425	1,515,760	2,148,671	142,325
Italy	481,539	3,963,390	98,429	3,157,772	4,623,530	1,963,609	—	1,691,999	642,945	173,749	3,499,875	543,769	3,594,819	673,423
Netherlands	171,144	1,604,527	138,933	707,798	9,475,979	2,255,282	1,179,218	—	521,143	211,421	1,684,368	1,835,821	5,201,789	60,604
Spain	85,330	1,748,467	25,517	1,160,010	2,599,772	725,070	1,120,788	1,143,706	—	147,915	2,238,271	820,781	2,336,799	14,714
Sweden	125,907	642,616	117,449	313,148	1,000,533	77,717	417,316	301,606	111,562	—	357,120	226,939	585,652	2,587
Switzerland	1,806,591	1,024,245	14,510	1,389,964	8,107,406	2,692,044	3,135,060	670,586	2,859,030	67,979	—	514,399	1,996,357	36,465
UK	183,991	3,381,427	39,605	1,458,732	4,128,834	2,988,527	1,713,418	1,873,670	575,187	374,418	2,367,756	—	3,151,909	69,135
USA	886,740	12,400,546	596,165	5,024,321	15,452,414	23,430,416	6,236,949	1,404,121	652,622	1,775,088	23,383,149	6,286,006	—	5,762,946
Canada	120,124	947,912	7,502	266,927	1,472,602	508,985	271,465	635,374	260,099	229,495	2,707,168	851,744	4,276,220	—
Australia	52,145	629,604	13,038	262,394	1,074,476	383,358	316,646	639,662	205,352	61,317	1,180,791	574,102	1,330,593	50,472
Japan	93,688	1,302,430	85,809	908,410	3,430,148	1,263,203	574,974	537,602	383,426	748,496	3,478,495	936,537	3,870,632	430,471
Others	4,338,611	14,048,969	15,787,882	12,458,802	27,352,074	4,380,337	6,290,669	11,595,449	3,109,045	4,225,136	24,852,667	7,575,402	13,450,244	826,173
World Total	11,261,388	52,711,979	17,483,639	35,507,424	91,210,538	53,408,959	33,568,938	30,085,568	12,755,759	10,224,631	82,955,506	27,106,205	53,561,670	8,441,185

(2) Imports

(Unit: USD 1,000)

Exporter	Importer													
	Austria	Belgium	Denmark	France	Germany	Ireland	Italy	Netherlands	Spain	Sweden	Switzerland	UK	USA	Canada
Austria	—	693,270	82,632	392,623	1,585,285	14,212	377,897	172,201	92,575	124,075	2,548,372	170,697	1,800,372	211,813
Belgium	250,597	—	252,762	3,257,977	2,612,441	462,522	4,510,263	1,338,369	1,019,102	471,601	553,032	3,477,707	6,379,271	537,732
Denmark	96,919	258,173	—	798,254	662,272	92,444	443,333	289,024	308,444	710,279	141,612	599,078	6,399,579	425,114
France	411,810	5,108,757	193,129	—	3,774,965	371,303	3,106,861	679,557	1,208,244	239,803	1,130,829	1,637,153	3,477,822	473,736
Germany	2,076,219	3,512,304	698,563	4,554,002	—	979,888	5,176,135	4,415,391	2,729,269	987,197	8,663,007	4,243,379	17,257,313	2,103,320
Ireland	219,262	9,416,786	221,199	2,656,806	3,527,318	—	2,016,985	1,715,094	501,215	104,173	2,937,349	2,786,499	25,874,480	865,931
Italy	694,213	5,362,830	161,835	2,342,525	2,925,312	117,128	—	1,114,754	787,619	296,820	3,691,256	1,812,122	8,390,994	549,730
Netherlands	286,572	1,470,675	267,695	2,630,660	9,344,790	401,408	2,527,996	—	1,394,818	436,489	312,077	6,380,062	3,973,373	80,546
Spain	162,233	379,576	79,912	855,407	1,805,279	293,984	631,754	223,804	—	78,035	3,079,230	695,452	1,243,401	270,437
Sweden	148,303	266,072	209,940	713,182	1,234,253	57,198	240,513	239,293	147,423	—	77,837	183,387	606,326	282,193
Switzerland	743,465	7,420,660	249,422	1,992,463	10,322,088	150,237	2,331,912	946,665	1,333,744	188,218	—	735,146	15,727,174	1,973,046
UK	220,638	1,289,953	96,442	1,076,501	2,858,822	887,491	611,979	1,550,145	889,290	247,435	1,275,579	—	5,108,531	534,746
USA	1,632,321	7,226,709	205,879	954,270	9,653,002	2,832,317	3,574,143	3,631,648	3,180,724	577,885	3,761,072	2,240,222	—	3,914,693
Canada	11,123	925,196	4,990	139,265	203,983	164,503	61,749	57,964	133,511	2,772	84,587	125,988	5,313,692	—
Australia	1,909	32,305	435	46,632	413,233	38,246	899	20,826	5,513	516	32,700	136,043	1,214,617	28,517
Japan	15,988	236,639	2,459	83,069	560,358	64,100	168,949	77,534	49,461	14,166	702,901	281,309	4,272,122	220,597
Others	659,093	2,082,426	1,734,204	2,609,198	8,828,300	690,559	1,433,521	1,853,688	1,908,664	364,673	2,534,714	2,405,987	21,198,912	1,388,113
World Total	7,630,665	45,682,329	4,479,498	25,102,832	60,311,701	7,618,179	27,214,890	18,325,957	15,689,617	4,844,135	31,526,155	27,994,934	128,237,981	13,860,264

Source : OECD, "International Trade by Commodities Statistics" (Harmonised System 2012 classification No.30)

Technology Exports and Imports in the Pharmaceutical Industry (Japan) A-4-5

Fiscal Year	Total Contracts						New Contracts					
	Revenue		Payment		Balance		Revenue		Payment		Balance	
	No. of Cases	Value (JPY mil.)	No. of Cases	Value (JPY mil.)	No. of Cases	Value (JPY mil.)	No. of Cases	Value (JPY mil.)	No. of Cases	Value (JPY mil.)	No. of Cases	Value (JPY mil.)
1980	148	2,986	132	10,162	16	△ 7,176	26	273	26	600	0	△ 327
1985	239	13,068	166	13,085	73	△ 17	25	919	31	498	△ 6	421
1990	385	24,971	247	22,514	138	2,457	39	3,372	24	4,434	15	△ 1,062
1995	418	36,700	320	36,700	98	0	40	2,309	42	5,829	△ 2	△ 3,520
1998	479	80,500	297	38,500	182	42,000	31	3,296	24	2,557	7	739
1999	518	103,600	284	37,000	234	66,600	54	22,359	34	3,460	20	18,899
2000	467	86,380	272	39,017	195	47,363	44	9,036	36	2,645	8	6,391
2001	-	110,845	-	65,359	-	45,486	Contracts with Parent/Affiliated Company					
2002	-	142,212	-	41,684	-	100,528	-	40,530	-	2,336	-	38,194
2003	-	135,912	-	36,460	-	99,452	-	43,873	-	3,753	-	40,120
2004	-	182,803	-	33,520	-	149,283	-	74,485	-	3,017	-	71,468
2005	-	193,384	-	44,499	-	148,885	-	83,521	-	2,194	-	81,327
2006	-	238,277	-	35,295	-	202,982	-	102,637	-	1,741	-	100,896
2007	-	282,985	-	36,907	-	246,078	-	115,537	-	4,098	-	111,439
2008	-	287,879	-	58,667	-	229,212	-	145,053	-	2,264	-	142,789
2009	-	261,243	-	44,918	-	216,325	-	123,404	-	527	-	122,877
2010	-	312,753	-	51,886	-	260,867	-	122,978	-	192	-	122,786
2011	-	288,976	-	33,494	-	255,482	-	106,012	-	73	-	105,939
2012	-	305,686	-	58,955	-	246,731	-	91,475	-	1,815	-	89,660
2013	-	441,274	-	80,427	-	360,847	-	140,207	-	149	-	140,058
2014	-	447,626	-	105,632	-	341,994	-	177,113	-	195	-	176,918
2015	-	477,086	-	175,827	-	301,259	-	194,119	-	3,321	-	190,798
2016	-	444,181	-	142,366	-	301,815	-	179,877	-	5,003	-	174,874
2017	-	659,223	-	210,724	-	448,499	-	332,293	-	69,065	-	263,228
2018	-	640,097	-	175,961	-	464,136	-	271,080	-	6,571	-	264,509
2019	-	625,844	-	167,891	-	457,953	-	283,182	-	11,549	-	271,633
2020	-	634,099	-	189,876	-	444,223	-	293,104	-	14,395	-	278,709

Source : Ministry of Internal Affairs and Communications, Report on the Survey of Research and Development
<https://www.e-stat.go.jp/stat-search/files?page=1&toukei=00200543&cycle=0>

A. Pharmaceutical Industry Outlook

A-5. Overseas Business of Japanese Companies

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Overseas Business of Japanese Pharmaceutical Companies (Japan) A-5-1

Fiscal Year	No. of Pharmaceutical Companies	Manufacture (Production Plant)	
		Marketing (Including Import)	
1965	10	8	8
1970	15	8	15
1975	30	13	25
1980	43	17	33
1985	64	23	37
1990	93	38	46
1995	148	59	73
1996	176	72	116
1997	187	76	125
1998	208	92	139
1999	229	99	164
2000	249	103	192
2001	276	130	213
2002	292	122	237
2003	304	127	232
2004	318	126	243
2005	291	104	212
2006	297	108	219
2007	292	109	209
2008	320	113	224
2009	331	117	235
2010	337	121	248
2011	334	119	256
2012	363	135	275
2013	371	137	283
2014	378	130	286
2015	384	136	295
2016	372	135	280
2017	364	134	274

Note :

1. Japanese overseas subsidiaries whose investment ratio is more than 50% independently.
2. Business relating to pharmaceutical bulk products, medical devices and equipments, nutrition-tonics and R&D activities are included.
3. This table has not been updated, because the survey has not been conducted since 2018.

Source : Yano Research Institute

Overseas Business of Japanese Pharmaceutical Companies by countries (Japan) A-5-2

Year	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
No. of Pharmaceutical Companies																				
USA	22	34	51	56	63	70	71	67	65	65	68	75	72	73	73	74	74	72	71	71
UK	3	18	23	24	23	23	22	27	29	28	26	26	26	25	26	25	26	28	27	26
Germany	8	20	15	18	20	23	19	18	16	15	17	17	16	16	15	14	14	15	12	14
France	7	7	8	10	10	10	10	9	9	8	8	8	10	10	12	11	11	11	11	12
China	-	6	20	11	13	13	12	30	32	33	39	42	44	44	48	47	49	49	45	46
Taiwan	16	7	24	6	7	8	9	18	17	16	17	17	17	17	16	17	17	16	16	16
Indonesia	5	10	10	23	20	21	29	15	15	15	15	16	15	14	14	14	13	13	13	12
Korea	4	5	10	9	11	12	16	12	11	11	11	11	11	9	12	12	13	12	12	11
Hong Kong	6	6	6	8	8	7	6	8	9	9	10	10	11	9	9	10	10	10	11	10
Singapore	3	9	8	24	27	28	30	8	10	8	12	10	10	8	9	10	12	11	13	12
Others	17	24	70	83	86	84	89	72	77	77	89	91	105	109	129	137	139	147	141	134
Total	91	146	245	272	288	299	313	284	290	285	312	323	337	334	363	371	378	384	372	364
Percentage of total (%)																				
USA	24.2	23.3	20.8	20.8	21.9	23.4	22.7	23.6	22.4	22.8	21.8	23.2	21.4	21.9	20.1	19.9	19.6	18.8	19.1	19.5
UK	3.3	12.3	9.4	8.8	8.0	7.7	7.0	9.5	10.0	9.8	8.3	8.0	7.7	7.5	7.2	6.7	6.9	7.3	7.3	7.1
Germany	8.8	13.7	6.1	6.6	6.9	7.7	6.1	6.3	5.5	5.3	5.4	5.3	4.7	4.8	4.1	3.8	3.7	3.9	3.2	3.8
France	7.7	4.8	3.3	3.7	3.5	3.3	3.2	3.2	3.1	2.8	2.6	2.5	3.0	3.0	3.3	3.0	2.9	2.9	3.0	3.3
China	-	4.1	8.2	4.0	4.5	4.3	3.8	10.6	11.0	11.5	12.5	13.0	13.1	13.2	13.2	12.7	13.0	12.8	12.1	12.6
Taiwan	17.6	4.8	9.8	2.2	2.4	2.7	2.9	6.3	5.9	5.6	5.4	5.3	5.0	5.1	4.4	4.6	4.5	4.2	4.3	4.4
Indonesia	5.5	6.8	4.1	8.5	6.9	7.0	9.3	5.3	5.2	5.3	4.8	5.0	4.5	4.2	3.9	3.8	3.4	3.4	3.5	3.3
Korea	4.4	3.4	4.1	3.3	3.8	4.0	5.1	4.2	3.8	3.9	3.5	3.4	3.3	2.7	3.3	3.2	3.4	3.1	3.2	3.0
Hong Kong	6.6	4.1	2.4	2.9	2.8	2.3	1.9	2.8	3.1	3.2	3.2	3.1	3.3	2.7	2.5	2.7	2.6	2.6	3.0	2.7
Singapore	3.3	6.2	3.3	8.8	9.4	9.4	9.6	2.8	3.4	2.8	3.8	3.1	3.0	2.4	2.5	2.7	3.2	2.9	3.5	3.3
Others	18.7	16.4	28.6	30.5	29.9	28.0	28.4	25.4	26.6	27.0	28.5	28.2	31.2	32.6	35.5	36.9	36.8	38.3	37.9	36.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Note :

1. Japanese overseas subsidiaries whose investment ratio is more than 50% independently.
2. Business relating to pharmaceutical bulk products, medical devices and equipments, nutrition-tonics and R&D activities are included.
3. This table has not been updated, because the survey has not been conducted since 2018.

Source : Yano Research Institute

Overseas Sales and Number of Employees (JPMA Member Companies) A-5-3

Fiscal Year	Overseas Sales (JPY mil.)		Number of Employees - Overseas							
			North America		Europe		Asia and Others		Total	
	Value	No. of companies	No. of Employees	No. of Companies	No. of Employees	No. of Companies	No. of Employees	No. of Companies	No. of Employees	No. of Companies
1997	297,249	13	1,621	17	2,786	16	1,017	17	5,424	21
1998	431,897	22	4,978	19	3,630	16	5,584	18	14,192	22
1999	581,065	28	5,215	22	4,221	21	6,049	20	15,485	27
2000	922,761	31	6,405	24	5,338	20	9,027	23	21,345	29
2001	1,120,044	29	6,673	25	5,677	22	9,526	22	21,876	29
2002	1,339,311	28	8,034	26	6,658	22	8,574	20	23,266	28
2003	1,502,031	29	6,253	26	7,034	22	8,464	20	24,766	29
2004	1,536,004	29	7,456	26	8,611	22	6,334	23	26,851	30
2005	1,706,859	27	8,723	24	8,974	20	6,995	20	29,547	28
2006	2,018,424	28	7,791	22	7,175	16	6,516	18	32,075	28
2007	2,163,996	27	5,185	18	4,928	13	5,647	14	34,765	24
2008	2,330,551	29	13,893	17	7,650	13	6,452	13	53,618	22
2009	2,447,679	31	15,983	18	7,801	12	6,621	13	60,060	23
2010	2,216,743	30	14,002	17	7,796	9	6,215	11	49,649	21
2011	2,691,265	30	7,641	16	5,764	9	6,377	11	65,034	22
2012	2,873,613	28	7,309	16	5,763	9	6,798	12	78,840	24
2013	3,549,137	27	7,010	14	5,989	8	7,193	11	81,928	21
2014	2,964,694	28	7,818	16	6,507	10	8,775	15	30,985	22
2015	3,378,718	24	6,311	11	5,991	7	9,062	13	21,364	16
2016	3,262,055	26	6,256	12	6,088	7	8,364	14	20,708	17
2017	3,208,533	25	6,053	12	5,811	7	8,622	13	20,486	18
2018	3,858,173	22	7,274	11	6,538	10	6,506	11	20,318	16
2019	5,288,894	25	4,916	11	4,473	9	9,436	13	18,825	15
2020	4,390,860	25	7,860	12	4,434	9	9,350	13	21,644	17

Note :

1. Survey of companies with more than 50% domestic capital.
2. Overseas Sales: 'No. of Companies' represents number of valid answers only.
3. The total number of companies being smaller than the sum of the numbers of companies in each of the three regions reflects the fact that some companies have their overseas sites in multiple regions.
4. The total number of employees being greater than the total of the numbers of employees in the three regions reflects the fact that some companies responded by giving only the total number of employees.

Source: JPMA Survey

Number of Overseas Bases (JPMA Member Companies)

A-5-4

Fiscal Year	Laboratory		R&D Bases		Factory	
	No. of Facilities	No. of Companies	No. of Facilities	No. of Companies	No. of Facilities	No. of Companies
1997	10	4	—	—	20	7
1998	18	7	—	—	42	14
1999	22	9	—	—	50	15
2000	24	12	—	—	63	15
2001	24	14	—	—	69	16
2002	26	15	—	—	63	17
2003	29	14	16	10	62	17
2004	23	13	39	15	67	17
2005	19	12	30	15	63	17
2006	23	10	42	20	63	16
2007	25	9	51	22	66	15
2008	27	9	54	22	59	13
2009	24	12	57	22	58	13
2010	23	11	50	20	44	12
2011	32	13	60	21	58	13
2012	35	14	64	21	68	13
2013	36	14	69	22	66	13
2014	33	14	60	18	65	12
2015	30	12	38	15	56	14
2016	27	12	46	18	48	13
2017	28	12	45	16	52	12
2018	27	12	51	15	43	12
2019	37	12	38	13	39	10
2020	40	13	65	17	59	15

Note :

1. Survey of companies with more than 50% domestic capital.
2. 'No. of Companies' represents number of valid answers only. (No of companies with any of overseas sites)

Source: JPMA Survey

Overseas Bases by Countries (JPMA Member Companies) (1/3)

A-5-5

(1) Number of Laboratories by Countries

	Fiscal Year	2000	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
USA	Companies	9	12	11	10	9	9	11	10	12	12	12	10	8	9	9	10	10	11
	Facilities	11	14	14	15	19	16	18	18	21	23	21	14	13	15	15	21	25	29
Canada	Companies											1	1	1	1	1	1	1	1
	Facilities											1	1	1	1	1	1	1	1
Ireland	Companies	0																	
	Facilities	0																	
Denmark	Companies									1			1	1	1	1	1	1	1
	Facilities									1			1	1	1	1	1	1	1
Germany	Companies	3	1		1	1	1			1	1	1	1	1					1
	Facilities	3	1		1	1	1			1	1	1	1	1					1
Spain	Companies										1	1	1	1	1	1			
	Facilities										1	1	1	1	1	1			
Italy	Companies	0																	
	Facilities	0																	
UK	Companies	5	5	2	3	2	1	2	2	3	3	3	3	2	1	1		2	2
	Facilities	6	5	2	3	2	1	2	2	3	3	3	3	2	1	1		2	2
France	Companies	0	1																
	Facilities	0	1																
Netherlands	Companies			1	1	1	1	1	1										
	Facilities			1	1	1	1	1	1										
Switzerland	Companies							1	1	1	1	1	2	1	1	1	1	1	1
	Facilities							1	1	1	1	1	2	1	1	1	1	1	1
China	Companies	0	2	2	2	1	1	1		2	2	3	2	2	1	1		1	
	Facilities	0	2	2	2	1	2	1		3	3	3	3	3	1	1		1	
Indonesia	Companies	0																	
	Facilities	0																	
Taiwan	Companies	0																	
	Facilities	0																	
Vietnam	Companies													1	1	1	1	2	1
	Facilities													1	1	1	1	2	1
Korea	Companies	0																	
	Facilities	0																	
Singapore	Companies				1	1	1	1	1	1	1	2	2	2	2	2		1	1
	Facilities				1	1	1	1	1	1	1	3	2	2	2	2		1	1
India	Companies						1			1	1	1	2	3	2	2	1	1	2
	Facilities						4			1	1	1	2	3	2	2	1	1	2
Malaysia	Companies													1	1	1		1	
	Facilities													1	1	1		1	
Israel	Companies															1	1	1	1
	Facilities															1	1	1	1
Brazil	Companies										1	1	1						
	Facilities										1	1	1						
Others	Companies	4																	
	Facilities	4																	
Total	Companies	12	13	12	10	9	9	12	11	13	14	14	11	12	12	12	12	12	13
	Facilities	24	12	19	23	25	27	24	23	32	35	36	31	30	27	28	27	37	40

Note :

1. Survey of companies with more than 50% domestic capital.
2. 'No. of Companies' represents number of valid answers only. (No. of companies with any of overseas sites)
3. No. of companies of the total column shows the number of companies having the laboratories abroad.
4. In 2000, the survey required specification of 10 countries. The other countries are shown as 'Others'.
From 2004, all countries are shown in the table.

Source: JPMA Survey

Overseas Bases by Countries (JPMA Member Companies) (2/3)

A-5-5

(2) Number of R&D Bases by Countries

	Fiscal Year	2005	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
USA	Companies	14	21	20	21	21	22	18	13	16	14	14	12	16
	Facilities	15	28	25	26	26	29	23	17	20	18	26	16	31
Canada	Companies	1	1	1			1	1	1	2	2	2	2	2
	Facilities	1	1	1			1	1	1	2	2	2	2	2
Ireland	Companies	1										1		
	Facilities	1										1		
Denmark	Companies					2	2	1						
	Facilities					2	2	1						
Finland	Companies	1	1	1	1	1	1	1				1		1
	Facilities	1	1	1	1	1	1	1				1		1
Germany	Companies	3	3	2	3	2	3	2		1	1	1	1	1
	Facilities	3	3	2	3	2	3	2		1	1	1	1	1
UK	Companies	5	9	7	8	10	10	9	6	6	4	5	3	5
	Facilities	5	9	7	9	11	10	9	6	6	4	6	3	5
France	Companies				1	1	1							2
	Facilities				1	1	1							2
Netherlands	Companies	1	1	1	1	1	1	1	1	1	1			
	Facilities	1	1	1	1	1	1	1	1	1	1			
Switzerland	Companies		1	1	1	1	1	2	1	2	2	1	1	3
	Facilities		1	1	2	1	1	2	1	2	2	1	1	3
Russia	Companies									1	1			
	Facilities									1	1			
China	Companies	2	7	5	8	8	7	9	8	6	7	7	5	8
	Facilities	2	7	5	10	11	11	12	9	6	7	8	6	9
Hong-Kong	Companies													1
	Facilities													1
Taiwan	Companies		1	1	1	1	1	1		1	1	1	1	1
	Facilities		1	1	1	1	1	1		1	1	1	1	1
Vietnam	Companies												1	
	Facilities												1	
Korea	Companies	1	2	3	3	3	3	2	1	1	1	2	2	3
	Facilities	1	2	3	3	3	3	2	1	1	1	2	2	3
Singapore	Companies		3	3	3	3	4	4	1	2	3	1	1	2
	Facilities		3	3	3	3	5	4	1	2	3	1	1	2
India	Companies									1	1		1	1
	Facilities									1	1		1	1
Malaysia	Companies								1	1	1		1	
	Facilities								1	1	1		1	
Thailand	Companies													1
	Facilities													1
Israel	Companies										1		1	1
	Facilities										1		1	1
Brazil	Companies					1		1		1	1	1	1	1
	Facilities					1		1		1	1	1	1	1
Total	Companies	15	22	20	21	21	22	19	15	18	16	15	13	17
	Facilities	30	57	50	60	64	69	60	38	46	45	51	38	65

Note :

1. Survey of companies with more than 50% domestic capital.

2. 'No. of Companies' represents number of valid answers only. (No. of companies with any of overseas sites)

3. No. of companies of the total column shows the number of companies having the R&D Bases abroad.

Source: JPMA Survey

Overseas Bases by Countries (JPMA Member Companies) (3/3)

A-5-5

(3) Number of Factories by Countries

	Fiscal Year	2000	2005	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
USA	Companies	5	5	5	5	5	4	5	3	4	4	4	2	3	3
	Facilities	8	6	5	5	5	4	6	4	5	4	4	2	3	5
Canada	Companies			2	1	1									1
	Facilities			2	1	1									1
Ireland	Companies	3	2	2	2	2	2	2	2	1	2	2	1	1	1
	Facilities	4	4	3	3	3	4	4	2	2	2	2	2	2	2
Denmark	Companies				1	2	2	2	2	1	2	2	1	1	1
	Facilities				1	2	3	2	2	1	1	1	1	1	1
Norway	Companies					1	1	1	1		1	1			
	Facilities					1	2	1	1		—	—			
Finland	Companies		1	1	1	1	1	1	1						
	Facilities		1	1	1	1	1	1	1						
Germany	Companies	3	2			1	1	1	1	1	1	1	1	1	1
	Facilities	3	2			1	2	2	2	1	—	—	1	1	1
Spain	Companies		1	1	1	1	1	1	1	1	1	1	1	1	1
	Facilities		1	1	1	1	1	1	1	1	1	1	1	1	1
Italy	Companies	2	1	1	1	1	1	1	1		1	1			
	Facilities	2	1	1	1	1	1	1	1		—	—			
UK	Companies	0	1	1	1	1	1	1	2	2	2	2	1	1	2
	Facilities	0	1	1	1	1	1	1	2	2	2	2	1	1	2
France	Companies	1	2							1			1	2	2
	Facilities	1	2							1			1	2	3
Netherlands	Companies		1	1	1	1	1	1	1	1	1	1	1	1	1
	Facilities		1	1	1	1	1	1	1	1	1	1	1	1	1
Belgium	Companies					1	1	1	1		1	1			
	Facilities					1	1	1	1		—	—			
Austria	Companies					1	1	1	1		1	1			
	Facilities					1	1	1	1		—	—			
Switzerland	Companies			1	1	1	1	1	1	1	1	1	1	1	1
	Facilities			1	1	1	1	1	1	1	1	1	1	1	1
Poland	Companies					1	1	1	1		1	1			
	Facilities					1	1	1	1		—	—			
Russia	Companies						1	1	1		1	1			
	Facilities						1	1	1		—	—			
Estonia	Companies						1	1	1						
	Facilities						1	1	1						
China	Companies	6	12	10	9	11	11	11	11	11	10	10	8	7	11
	Facilities	7	14	16	10	14	15	15	14	15	12	14	11	10	15
Indonesia	Companies	5	7	7	6	7	7	7	6	5	6	6	3	4	5
	Facilities	5	8	8	7	8	9	9	7	5	5	5	3	4	5
Taiwan	Companies	8	7	5	3	3	2	1	1	1	1	1	2	1	1
	Facilities	8	7	5	3	3	2	1	1	1	1	1	2	1	1
Vietnam	Companies		2	2	2	2	2	2	2	5	4	5	3	4	4
	Facilities		2	2	2	2	2	2	2	6	4	6	3	5	6
Korea	Companies	3	2	2	1	2	2	2	1	1	1	1	1	1	1
	Facilities	3	2	2	1	2	2	2	1	1	1	1	1	1	1
Thailand	Companies		3	2	1	1	1	1	1	1	2	2	2		1
	Facilities		3	3	1	1	1	1	1	1	2	2	3		1
India	Companies		1	1	1	1	2	2	3	3	2	3	1	1	2
	Facilities		1	1	1	1	2	2	8	7	7	7	7	1	7
Philippines	Companies		1	1	1	1	1								
	Facilities		1	1	1	1	1								
Malaysia	Companies		1	1	1	1	1	1	1	1	1	1		1	1
	Facilities		1	1	1	1	1	1	2	2	2	2		2	2
Pakistan	Companies		1	1											
	Facilities		1	1											
Mexico	Companies					1	2	2	2	1	2	2		1	1
	Facilities					1	2	2	2	1	1	1		1	1
Brazil	Companies		2	1	1	2	2	2	2	2	2	2	2	2	2
	Facilities		2	1	1	2	3	3	3	2	1	1	2	2	2
Colombia	Companies						1	1	1						
	Facilities						1	1	1						
Argentina	Companies						1	1	1		1	1			
	Facilities						1	1	1		—	—			
Venezuela	Companies		1												
	Facilities		1												
Egypt	Companies		1	1											
	Facilities		1	1											
Others	Companies	9													
	Facilities	22													
Total	Companies	15	17	13	12	13	13	13	13	14	13	12	12	10	15
	Facilities	63	63	58	44	58	68	66	66	56	48	52	43	39	59

Note :

- Survey of companies with more than 50% domestic capital.
- 'No. of Companies' represents number of valid answers only. (No. of companies with any of overseas sites)
- No. of companies of the total column shows the number of companies having the factories abroad.
- In 2016 and 2017, there was a company which gave out no information about No. of facility.
Therefore, No. of facility can be lower than No. of company.
- In 2000, the survey required specification of 10 countries. The other countries are shown as 'Others'.
From 2005, all countries are shown in the table.

Source: JPMA Survey

A. Pharmaceutical Industry Outlook

A-6. Pharmaceutical Production

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Pharmaceutical Production (Japan)

A-6-1

(Unit: JPY 100 mil.)

Year	Pharmaceutical Production							
		Change (%)	Ratio to GDP (%)	Ethicals	Change (%)	Ratio to Pharmaceutical Production (%)	Imports	Ratio to Ethics (%)
1975 *	17,924	5.5	1.18	14,640	5.9	81.7	5,581	38.1
1980 *	34,822	14.5	1.42	29,784	16.3	85.5	9,972	33.5
1985 *	40,018	△ 0.6	1.23	33,837	△ 1.3	84.6	9,977	29.5
1990 *	55,954	1.7	1.28	47,203	0.9	84.4	13,955	29.6
1995 *	61,681	7.3	1.30	52,436	7.4	85.0	14,959	28.5
2000	59,273	△ 1.9	1.18	51,278	△ 1.4	86.5	12,491	24.4
2001	61,954	4.3	1.26	54,259	5.5	87.6	13,633	25.1
2002	61,448	△ 0.8	1.25	53,913	△ 0.6	87.7	13,571	25.2
2003	61,734	0.5	1.25	54,589	1.2	88.4	13,385	24.5
2004	61,212	△ 0.9	1.23	54,402	△ 0.3	88.9	13,080	24.0
2005	63,907	4.4	1.27	57,413	5.5	89.8	14,941	26.0
2006	64,381	0.7	1.26	58,036	1.1	90.1	14,620	25.2
2007	64,522	0.2	1.25	58,281	0.4	90.3	15,015	25.8
2008	66,201	2.6	1.34	59,928	2.8	90.5	15,255	25.5
2009	68,196	3.0	1.44	61,742	3.0	90.5	15,529	25.2
2010	67,791	△ 0.6	1.41	61,489	△ 0.4	90.7	16,549	26.9
2011	69,874	3.1	1.48	63,445	3.2	90.8	17,298	27.3
2012	69,767	△ 0.2	1.48	62,630	△ 1.3	89.8	16,726	26.7
2013	68,940	△ 1.2	1.30	61,940	△ 1.1	89.8	15,617	25.2
2014	65,898	△ 4.4	1.26	58,689	△ 5.2	89.1	15,676	26.7
2015	67,481	2.4	1.26	59,969	2.2	88.9	15,829	26.4
2016	66,239	△ 1.8	1.23	58,713	△ 2.1	88.6	14,765	25.1
2017	67,213	1.5	1.23	60,007	2.3	89.4	16,377	24.4
2018	69,077	2.8	1.26	61,726	2.7	89.4	18,907	30.6
2019	94,860	37.3	-	86,628	40.3	91.3	62,735	72.4
2020	93,054	△ 1.9	-	85,195	△ 1.7	91.6	58,948	69.2
20 JPMA Total	(33companies) 27,557	—	—	(32companies) 25,114	—	(32companies) 96.2	—	—

Note :

1. "Imports" means the pharmaceutical products that the final manufacturing process is carried out by a Japan domestic manufacturer from imported active pharmaceutical ingredients whose number is more than domestic ones. That is, "Imports" does not include imported pharmaceutical products, i.e., either products for which a foreign manufacturer has performed the final manufacturing process or final products for which the final manufacturing process, and packaging and labeling processes have been carried out.
2. JPMA Total is based on fiscal year data.
3. Values of Pharmaceutical Production from 2000 to 2005 were retroactively revised, based on the revised definition in 2006. Values of Pharmaceutical Production from 1975 to 1995 were based on the previous definition.
4. The survey method of Statistics of Production by Pharmaceutical Industry has been changed from 2019. For details, please refer to the "Notification on the Change of Survey Method of the Current Survey of Pharmaceutical Industry Production" (Notification from the Director of the Economic Affairs Division, Health Policy Bureau, Ministry of Health, Labour and Welfare, dated April 10, 2018, report No. 0410-1).
5. Values have been retrospectively revised in accordance with revisions in the source documents cited.
6. Values of GDP for each year are based on the 1990 standard for 1975, the 2000 standard for 1980-1990, and the 2011 standard for 1995 and later.
7. Values of GDP on 2020 have not been announced by competent authorities.

Source :

Ministry of Health, Labour and Welfare, Statistics of Production by Pharmaceutical Industry

<https://www.mhlw.go.jp/toukei/list/105-1c.html>

Economic and Social Research Institute, Cabinet Office, Statistics of GDP

<https://www.esri.cao.go.jp/jp/sna/menu.html>

JPMA Survey

Pharmaceutical Production by Therapeutic Category (Japan)

A-6-2

2020

(Unit:JPY mil.)

Therapeutic Category	Total	Ethical Drug				OTC, etc.
			Share (%)	Domestic Products	Imports	
Total	9,305,376	8,519,501	100.0	2,624,703	5,894,798	785,875
CNS	1,056,950	913,442	10.7	236,349	677,093	143,508
Peripheral nervous system	27,977	27,280	0.3	3,884	23,396	696
Sensory organ	279,384	191,858	2.3	46,418	145,440	87,526
Cardiovascular system	939,370	930,194	10.9	320,572	609,622	9,177
Respiratory system	124,575	99,784	1.2	26,723	73,061	24,790
Gastrointestinals	560,467	485,175	5.7	161,342	323,833	75,292
Hormones	253,995	253,457	3.0	111,217	142,240	539
Genito-urinary system	178,904	170,280	2.0	65,131	105,149	8,623
Dermatologicals	417,598	241,803	2.8	42,930	198,873	175,795
Dental use	22,840	10,103	0.1	1,166	8,937	12,737
Other agents affecting individual organs	1,097	1,090	0.0	123	967	7
Vitamins	184,129	110,945	1.3	27,469	83,476	73,184
Nutrients/Tonics	157,213	109,884	1.3	5,080	104,804	47,329
Blood/Blood forming organs	641,276	641,258	7.5	297,814	343,445	17
Artificial dialysis agents	58,352	58,352	0.7	25,709	32,643	—
Other metabolic agents	1,243,560	1,206,714	14.2	435,672	771,043	36,845
Agents activating cellular function	1,201	59	0.0	—	59	1,142
Antitumor agents	1,215,990	1,215,990	14.3	99,957	1,116,033	—
Radio pharmaceuticals	51,120	51,120	0.6	38,837	12,283	—
Antiallergics	192,872	184,076	2.2	38,199	145,876	8,796
Crude drugs	4,657	3,294	0.0	51	3,244	1,363
Chinese herbal drugs	195,719	154,611	1.8	990	153,621	41,107
Other natural drugs & Chinese medicine	13,192	4,004	0.0	—	4,004	9,189
Antibiotics	185,715	185,715	2.2	70,987	114,728	—
Chemotherapeutics	247,530	247,109	2.9	59,699	187,411	421
Biological products	539,204	539,204	6.3	294,966	244,239	—
Antiparasitics	929	842	0.0	1	842	86
Dispensing drugs	11,924	9,267	0.1	3,376	5,891	2,657
Diagnostics, In Vivo	40,833	40,833	0.5	7,409	33,424	—
Hygiene products	22,131	3,994	0.0	574	3,420	18,136
Diagnostics, In Vitro	379,772	376,418	4.4	174,220	202,198	3,354
Other agents	24,286	20,729	0.2	8,079	12,649	3,557
Alkaloidal narcotics	17,838	17,838	0.2	17,817	21	—
Non-alkaloidal narcotics	9,880	9,880	0.1	438	9,442	—

1. "Domestic products" means the pharmaceutical products that the final manufacturing process is carried out by a Japan domestic manufacturer from domestic active pharmaceutical ingredients whose number is the same to or more than imported ones.
2. "Imports" means the pharmaceutical products that the final manufacturing process is carried out by a Japan domestic manufacturer from imported active pharmaceutical ingredients whose number is more than domestic ones. That is, "Imports" does not include imported pharmaceutical products, i.e., either products for which a foreign manufacturer has performed the final manufacturing process or final products for which the final manufacturing process, and packaging and labeling processes have been carried out.
3. The survey method of Statistics of Production by Pharmaceutical Industry has been changed from 2019.
For details, please refer to the "Notification on the Change of Survey Method of the Current Survey of Pharmaceutical Industry Production" (Notification from the Director of the Economic Affairs Division, Health Policy Bureau, Ministry of Health, Labour and Welfare, dated April 10, 2018, report No. 0410-1).
4. OTC etc. includes non-prescription drugs Pharmacist's guidance required.

Source : Ministry of Health, Labour and Welfare, Statistics of Production by Pharmaceutical Industry
<https://www.mhlw.go.jp/toukei/list/105-1.html>

Trends in Ethical Drug Production by Composition Ratio of Main Therapeutic Category (Japan)

A-6-3

Year	Rank									
	Upper row: Therapeutic Category, Bottom row: Share (%)					Rank				
	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
1980	Antibiotics 27.3%	Cardiovascular 12.1%	CNS 9.1%	Metabolic 8.6%	Vitamins 6.3%	Gastrointestinals 6.2%	Dermatological 4.1%	Biologicals 3.8%	Antineoplastics 3.6%	Hormones 3.0%
1985	Antibiotics 20.4%	Cardiovascular 15.0%	CNS 8.6%	Gastrointestinals 8.0%	Metabolic 5.5%	Vitamins 5.4%	Dermatological 4.6%	Biologicals 4.5%	Antineoplastics 4.1%	Blood forming organs 3.6%
1990	Cardiovascular 17.3%	Antibiotics 13.2%	CNS 9.1%	Gastrointestinals 9.0%	Metabolic 5.8%	Respiratory system 4.9%	Dermatological 4.8%	Vitamins 3.9%	Blood forming organs 3.8%	Biologicals 3.6%
1995	Cardiovascular 19.1%	Gastrointestinals 8.7%	Antibiotics 8.6%	CNS 8.4%	Metabolic 7.9%	Blood forming organs 5.0%	Biologicals 4.4%	Dermatological 4.2%	Antiallergics 3.5%	Chemotherapeutic 3.4%
2000	Cardiovascular 20.7%	Gastrointestinals 8.3%	Metabolic 8.1%	CNS 7.2%	Antibiotics 7.0%	Blood forming organs 6.4%	Biologicals 4.7%	Dermatological 4.5%	Antiallergics 3.4%	In vitro Diagnostics 3.1%
2001	Cardiovascular 21.6%	Metabolic 8.5%	Gastrointestinals 8.3%	CNS 7.5%	Antibiotics 7.2%	Blood forming organs 5.3%	Biologicals 4.5%	Antiallergics 4.3%	Dermatological 4.1%	Chemotherapeutic 2.9%
2002	Cardiovascular 21.4%	Metabolic 9.1%	Gastrointestinals 8.3%	CNS 8.0%	Antibiotics 6.5%	Blood forming organs 5.2%	Biologicals 4.4%	Dermatological 4.0%	Antiallergics 3.8%	Chemotherapeutic 3.3%
2003	Cardiovascular 22.4%	Metabolic 9.1%	Gastrointestinals 8.4%	CNS 8.2%	Antibiotics 6.7%	Blood forming organs 5.4%	Antiallergics 4.2%	Biologicals 4.1%	Dermatological 3.8%	Chemotherapeutic 3.3%
2004	Cardiovascular 22.0%	Metabolic 9.7%	CNS 8.7%	Gastrointestinals 8.4%	Antibiotics 6.2%	Blood forming organs 5.4%	Biologicals 4.5%	Dermatological 4.1%	Antiallergics 3.9%	Chemotherapeutic 3.3%
2005	Cardiovascular 22.6%	Metabolic 10.1%	Gastrointestinals 9.1%	CNS 7.7%	Antibiotics 6.0%	Blood forming organs 5.8%	Dermatological 4.1%	Biologicals 4.0%	Antiallergics 4.02%	In vitro Diagnostics 3.1%
2006	Cardiovascular 24.3%	Metabolic 9.5%	Gastrointestinals 8.5%	CNS 7.7%	Blood forming organs 6.5%	Antibiotics 5.6%	Biologicals 4.3%	Dermatological 4.0%	Antiallergics 3.7%	In vitro Diagnostics 3.2%
2007	Cardiovascular 23.7%	Metabolic 9.8%	Gastrointestinals 8.7%	CNS 8.3%	Blood forming organs 6.4%	Antibiotics 5.1%	Biologicals 4.7%	Dermatological 3.94%	Antiallergics 3.89%	In vitro Diagnostics 3.3%
2008	Cardiovascular 23.9%	Metabolic 10.0%	CNS 8.69%	Gastrointestinals 8.69%	Blood forming organs 6.8%	Biologicals 4.6%	Antibiotics 4.5%	Antiallergics 4.04%	Dermatological 3.96%	In vitro Diagnostics 3.1%
2009	Cardiovascular 22.9%	Metabolic 10.2%	CNS 9.7%	Gastrointestinals 8.9%	Blood forming organs 7.0%	Biologicals 4.6%	Antibiotics 4.5%	Dermatological 3.9%	Antiallergics 3.8%	In vitro Diagnostics 3.2%
2010	Cardiovascular 22.7%	CNS 10.8%	Metabolic 9.5%	Gastrointestinals 8.4%	Blood forming organs 7.3%	Biologicals 4.9%	Antibiotics 3.9%	Antiallergics 3.8%	Dermatological 3.6%	In vitro Diagnostics 3.2%
2011	Cardiovascular 21.1%	CNS 11.8%	Metabolic 9.9%	Gastrointestinals 7.9%	Blood forming organs 7.3%	Biologicals 5.0%	Antibiotics 4.2%	Antiallergics 4.1%	Dermatological 3.9%	In vitro Diagnostics 2.9%
2012	Cardiovascular 20.6%	CNS 11.6%	Metabolic 9.5%	Blood forming organs 8.2%	Gastrointestinals 7.8%	Biologicals 4.9%	Antibiotics 4.0%	Dermatological 3.8%	Antiallergics 3.6%	In vitro Diagnostics 3.3%
2013	Cardiovascular 20.1%	CNS 10.8%	Metabolic 10.0%	Blood forming organs 8.0%	Gastrointestinals 7.2%	Biologicals 5.3%	Antiallergics 4.1%	Dermatological 3.83%	Antibiotics 3.77%	In vitro Diagnostics 3.5%
2014	Cardiovascular 19.6%	CNS 11.2%	Metabolic 10.78%	Blood forming organs 7.7%	Gastrointestinals 6.8%	Biologicals 5.1%	Antibiotics 4.0%	Dermatological 3.9%	Antiallergics 3.69%	In vitro Diagnostics 3.67%
2015	Cardiovascular 18.0%	CNS 10.81%	Metabolic 11.0%	Blood forming organs 7.4%	Gastrointestinals 6.4%	Biologicals 5.5%	Antiallergics 3.84%	In vitro Diagnostics 3.82%	Antineoplastics 3.79%	Dermatological 3.7%
2016	Cardiovascular 17.0%	CNS 11.5%	Metabolic 11.0%	Blood forming organs 7.2%	Antineoplastics 5.56%	Biologicals 5.55%	Gastrointestinals 5.5%	In vitro Diagnostics 4.0%	Sensory organ 3.62%	Antibiotics 3.57%
2017	Cardiovascular 15.4%	Metabolic 12.5%	CNS 10.4%	Antineoplastics 7.4%	Blood forming organs 7.0%	Biologicals 5.8%	Gastrointestinals 5.6%	Dermatological 3.7%	In vitro Diagnostics 3.6%	Sensory organ 3.3%
2018	Metabolic 13.2%	Cardiovascular 12.9%	CNS 10.4%	Antineoplastics 9.9%	Blood forming organs 7.6%	Biologicals 5.8%	Gastrointestinals 5.0%	Chemotherapeutic 4.5%	In vitro Diagnostics 4.3%	Dermatological 3.5%
2019	Antineoplastics 13.4%	Metabolic 12.8%	Cardiovascular 11.4%	CNS 11.3%	Blood forming organs 7.9%	Biologicals 5.8%	Gastrointestinals 5.6%	In vitro Diagnostics 4.6%	Chemotherapeutic 4.5%	Hormones 3.0%
2020	Antineoplastics 14.3%	Metabolic 14.2%	Cardiovascular 10.9%	CNS 10.7%	Blood forming organs 7.5%	Biologicals 6.3%	Gastrointestinals 5.7%	In vitro Diagnostics 4.4%	Hormones 3.0%	Chemotherapeutic 2.9%

Note:
1. Each numeric data rounded off the 2nd decimal place to the 1st decimal place. If the same numeric data given is the same, numeric data rounded off the 3rd decimal place to the 2nd decimal place is shown.
2. The survey method of Statistics of Production by Pharmaceutical Industry has been changed from 2019.

For details, please refer to the "Notification on the Change of Survey Method of the Current Survey of Pharmaceutical Industry Production"

(Notification from the Director of the Economic Affairs Division, Health Policy Bureau, Ministry of Health, Labour and Welfare, dated April 10, 2018, report No. 0410-1).

Source : Ministry of Health, Labour and Welfare, Statistics of Production by Pharmaceutical Industry
http://www.mhlw.go.jp/toukei/list/105-1c.html

Pharmaceutical Production by Dosage Forms (Japan)

A-6-4

Dosage Form	Year	1995	2000	2005	2010	2012	2013	2014	2015	2016	2017	2018	2019	2020
Powders and granules etc.	Value (JPY mil.)	548,989	472,808	413,219	384,555	385,762	389,397	371,010	382,505	386,409	366,201	356,305	350,683	362,156
	Share (%)	8.9	7.6	6.5	5.7	5.5	5.6	5.6	5.7	5.8	5.4	5.2	3.7	3.9
Tablets	Value (JPY mil.)	2,398,684	2,519,393	2,945,439	3,599,803	3,599,428	3,497,293	3,234,652	3,230,842	3,049,389	3,043,763	3,085,101	4,532,784	4,330,713
	Share (%)	38.9	40.7	46.1	53.1	51.6	50.7	49.1	47.9	46.0	45.3	44.7	47.8	46.5
Pills*1	Value (JPY mil.)	22,400	18,448	16,108	13,590	13,126	14,248	14,618	14,952	15,390	15,456	13,800	17,904	14,183
	Share (%)	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Capsules	Value (JPY mil.)	571,016	531,189	503,496	403,529	405,009	426,207	409,149	442,634	425,401	426,239	454,054	672,073	645,203
	Share (%)	9.3	8.6	7.9	6.0	5.8	6.2	6.2	6.6	6.4	6.3	6.6	7.1	6.9
Oral liquid preparations	Value (JPY mil.)	370,876	218,183	174,076	173,494	174,184	165,355	171,200	165,346	161,967	146,566	150,522	199,940	177,491
	Share (%)	6.0	3.5	2.7	2.6	2.5	2.4	2.6	2.5	2.4	2.2	2.2	2.1	1.9
Injections*2	Value (JPY mil.)	627,865	556,952	461,396	365,372	368,988	351,452	345,097	390,366	469,191	527,534	638,188	1,200,334	1,292,932
	Share (%)	10.2	9.0	7.2	5.4	5.3	5.1	5.2	5.8	7.1	7.8	9.2	12.7	13.9
Powders for injection*3	Value (JPY mil.)	493,979	444,021	290,634	204,385	254,308	253,298	268,894	245,996	222,609	239,178	239,005	283,570	319,289
	Share (%)	8.0	7.2	4.5	3.0	3.6	3.7	4.1	3.6	3.4	3.6	3.5	3.0	3.4
Solution for external application	Value (JPY mil.)	242,652	313,427	290,151	296,169	323,820	331,027	357,631	408,296	449,993	415,194	441,025	424,978	436,427
	Share (%)	3.9	5.1	4.5	4.4	4.6	4.8	5.4	6.1	6.8	6.2	6.4	4.5	4.7
Aerosols	Value (JPY mil.)	6,293	12,976	12,611	11,932	13,072	12,775	14,069	16,781	17,390	25,951	27,889	34,597	25,603
	Share (%)	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.4	0.4	0.3
Ointments and creams	Value (JPY mil.)	146,814	150,597	123,662	138,490	178,555	160,850	158,268	150,288	157,055	157,421	165,763	180,678	189,857
	Share (%)	2.4	2.4	1.9	2.0	2.6	2.3	2.4	2.2	2.4	2.3	2.4	1.9	2.0
Suppositories	Value (JPY mil.)	41,728	35,139	24,496	18,615	21,455	18,793	13,541	12,577	12,453	12,178	9,664	13,210	13,657
	Share (%)	0.7	0.6	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.1
Cataplasms etc.*4	Value (JPY mil.)	126,979	173,897	188,832	195,706	213,533	214,196	210,838	219,583	216,591	223,245	204,357	221,327	198,052
	Share (%)	2.1	2.8	3.0	2.9	3.1	3.1	3.2	3.3	3.3	3.3	3.0	2.3	2.1
Others	Value (JPY mil.)	569,787	735,600	946,601	973,460	1,025,471	1,059,124	1,020,795	1,067,955	1,040,023	1,122,390	1,122,048	1,353,909	1,299,814
	Share (%)	9.2	11.9	14.8	14.4	14.7	15.4	15.5	15.8	15.7	16.7	16.2	14.3	14.0
Total	Value (JPY mil.)	6,168,062	6,182,631	6,390,722	6,779,099	6,976,712	6,894,014	6,589,762	6,748,121	6,623,860	6,721,317	6,907,722	9,485,988	9,305,376
	Share (%)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Note:

The survey method of Statistics of Production by Pharmaceutical Industry has been changed from 2019.

For details, please refer to the "Notification on the Change of Survey Method of the Current Survey of Pharmaceutical Industry Production"

(Notification from the Director of the Economic Affairs Division, Health Policy Bureau, Ministry of Health, Labour and Welfare, dated April 10, 2018, report No. 0410-1).

*1 Usually prepared by mixing drugs uniformly with diluents, binders and others and rolling into spherical form

*2 Solutions, Suspensions or Emulsions

*3 To be dissolved before use

*4 Pasty Preparation or those spread on cloth or plastic film for external application

Source : Ministry of Health, Labour and Welfare, Statistics of Production by Pharmaceutical Industry
http://www.mhlw.go.jp/toukei/list/105-1-c.html

A. Pharmaceutical Industry Outlook

A-7. Research and Development

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R&D Expenditures of the Pharmaceutical Industry (Japan)

A-7-1

Fiscal Year	R&D Expenditures (JPY 100 mil.)	Change from the previous year		% of Sales
		Value (JPY 100 mil.)	%	
1980	1,898	129	7.3	5.45
1985	3,419	466	15.8	7.04
1990	5,161	601	13.2	8.02
1994	6,328	36	0.6	7.79
1995	6,422	94	1.5	8.03
1996	6,671	249	3.9	8.11
1997	6,433	△ 238	△ 3.6	8.06
1998	6,811	378	5.9	8.07
1999	6,894	83	1.2	8.07
2000	7,462	568	8.2	8.60
2001	8,109	647	8.7	8.52
2002	9,657	1,548	19.1	8.91
2003	8,837	△ 820	△ 8.5	8.43
2004	9,067	230	2.6	8.64
2005	10,477	1,410	15.5	10.01
2006	11,735	1,258	12.0	10.95
2007	12,537	802	6.8	12.11
2008	12,956	419	3.3	11.74
2009	11,937	△ 1,019	△ 7.9	11.66
2010	12,760	823	6.9	12.02
2011	12,299	△ 461	△ 3.6	11.96
2012	13,061	762	6.2	11.81
2013	14,371	1,310	10.0	11.70
2014	14,953	582	4.1	12.21
2015	14,577	△ 376	△ 2.5	11.93
2016	13,516	△ 1,061	△ 7.3	10.04
2017	14,653	1,137	8.4	11.10
2018	14,047	△ 606	△ 4.1	11.05
2019	13,392	△ 655	△ 4.7	10.08
2020	13,216	△ 176	△ 1.3	9.68

Note :

The R&D expenditures described here refer to research expenditures used internally, as defined in "Report on the Survey of Research and Development" by the Ministry of Internal Affairs and Communications.

They mean research expenditures used within the companies out of their own funds and funds received from external sources. They do not include research expenditures paid to external parties, such as contract research and joint research.

Source : Ministry of Internal Affairs and Communications, Report on the Survey of Research and Development
<http://www.stat.go.jp/data/kagaku/index.html>

R&D Expenditures of Leading Pharmaceutical Manufacturers (Japan)

A-7-2

Company	Fiscal Year																
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
Expenditures (JPY mil.)																	
Takeda	169,645	193,301	275,788	453,046	296,392	288,874	281,885	324,292	343,300	382,100	345,927	312,303	325,461	368,298	492,381	455,833	
Astellas	142,076	167,945	134,463	159,058	195,570	217,325	189,840	181,954	214,600	206,600	225,700	208,129	220,781	216,140	215,789	216,841	
Otsuka Holdings	103,703	105,255	101,804	135,900	151,848	164,671	159,229	192,364	249,010	172,851	201,010	168,818	175,558	208,682	224,226	224,489	
Daiichi Sankyo	158,716	170,662	163,472	184,539	196,802	194,330	185,052	183,047	189,700	190,700	208,700	214,347	236,046	203,711	197,465	227,353	
Chugai	50,058	54,609	54,243	53,225	55,315	54,702	55,856	55,107	74,280	80,800	83,800	85,011	92,947	99,202	107,942	117,850	
Eisai	93,249	108,296	225,427	156,106	179,082	145,030	125,142	120,377	130,544	131,907	122,307	112,478	139,579	144,844	140,116	150,299	
Sumitomo Dainippon	29,636	40,869	47,266	52,818	51,371	68,159	56,890	59,844	69,804	71,304	82,033	80,819	86,928	102,365	115,112	132,682	
Mitsubishi Tanabe	78,447	75,758	72,335	73,122	83,081	65,784	70,241	66,530	70,405	69,600	75,293	64,783	79,083	86,533	79,400	72,600	
Shionogi	32,256	37,455	40,290	52,822	51,808	50,921	53,599	53,021	51,924	48,870	49,787	59,907	59,945	68,325	47,949	52,312	
Kyowa Kirin	32,875	33,342	34,109	48,389	34,979	44,210	47,961	44,808	43,682	47,737	51,604	53,822	49,155	48,591	53,511	62,528	
Ono	34,066	35,383	38,986	38,400	39,716	42,938	44,382	45,441	48,600	41,503	43,576	57,787	69,106	70,008	66,611	54,249	
Taisho Pharmaceutical Holdings	23,072	28,519	24,745	27,523	28,118	23,677	24,231	23,331	21,874	21,554	21,768	21,260	21,150	20,801	22,876	20,251	
Santen	13,971	13,663	12,941	18,457	14,123	13,221	17,225	16,719	19,040	17,477	19,990	22,786	24,398	23,759	23,341	24,112	
Hisamitsu	11,961	9,935	11,234	9,615	10,447	13,809	14,758	12,662	13,924	13,718	14,965	14,378	15,076	13,032	10,504	6,631	
Tsumura	4,856	4,829	4,368	3,958	3,770	4,123	4,565	4,904	5,949	6,252	5,968	6,087	6,048	5,926	6,270	16,104	
Nippon Shinyaku	10,071	8,200	7,898	7,853	8,440	8,967	9,414	9,049	9,530	8,968	9,739	14,903	13,221	16,701	13,994	10,766	
Kyorin Holdings	10,107	8,609	10,826	10,531	11,807	12,495	13,964	11,059	11,359	13,514	13,019	13,569	14,243	10,790	10,987	10,849	
Mochida	8,676	8,253	8,589	8,760	9,589	11,642	13,959	12,519	11,961	11,777	13,454	15,226	11,912	13,003	11,884	9,703	
Kaken	6,045	6,533	6,808	7,696	7,873	6,853	6,592	6,302	7,045	7,615	5,883	6,450	8,152	10,261	6,418	6,736	
Kissei	10,574	10,472	11,361	11,556	10,786	12,037	10,043	10,312	11,298	14,488	14,106	13,877	14,179	15,711	10,767	9,626	
Zeria	6,774	5,772	5,387	5,128	5,866	5,281	5,308	5,630	7,465	9,882	8,579	8,459	7,332	6,832	6,343	5,412	
Change (%)																	
Takeda	119.9	113.9	142.7	164.3	65.4	97.5	97.6	115.0	105.9	111.3	90.5	93.0	104.2	113.2	133.7	92.6	
Astellas	111.3	118.2	80.1	118.3	123.0	111.1	87.4	95.8	117.9	96.3	109.2	92.2	106.1	123.1	99.8	100.5	
Otsuka Holdings	119.6	101.5	96.7	133.5	111.7	108.4	96.7	120.8	129.4	69.4	116.3	84.0	104.0	94.5	107.4	100.1	
Daiichi Sankyo	109.3	107.5	95.8	112.9	106.6	98.7	95.2	98.9	103.6	100.5	109.4	102.7	110.1	86.3	97.0	115.1	
Chugai	103.9	109.1	99.3	98.1	103.9	98.9	102.1	98.7	134.8	108.8	103.7	101.4	109.3	106.7	108.8	109.2	
Eisai	119.1	116.1	208.2	69.2	114.7	81.0	86.3	96.2	108.4	101.0	92.7	92.0	124.1	103.8	96.7	107.3	
Sumitomo Dainippon	169.9	137.9	115.7	111.7	97.3	132.7	83.5	105.2	116.6	102.1	115.0	98.5	107.6	117.8	112.4	115.3	
Mitsubishi Tanabe	100.2	96.6	95.5	101.1	113.6	79.2	106.8	94.7	105.8	98.9	108.2	100.3	122.1	109.4	91.8	91.4	
Shionogi	109.7	116.1	107.6	131.1	98.1	98.3	105.3	98.9	97.9	94.1	101.9	120.3	100.1	114.0	70.2	97.8	
Kyowa Kirin	122.1	101.4	102.3	141.9	72.3	126.4	108.5	93.4	97.5	109.3	108.1	104.3	91.3	98.9	110.1	93.9	
Ono	111.2	103.9	110.2	98.5	103.4	108.1	103.4	102.4	107.0	85.4	105.0	132.6	119.6	101.3	94.9	113.1	
Taisho Pharmaceutical Holdings	99.4	123.6	86.8	111.2	102.2	84.2	102.3	96.3	93.8	98.5	101.0	97.7	99.5	98.3	110.0	88.5	
Santen	110.7	97.8	94.7	142.6	76.5	93.6	130.3	97.1	113.9	91.8	114.4	114.1	107.1	97.4	98.2	103.3	
Hisamitsu	165.6	83.1	113.1	85.6	108.7	132.2	106.9	85.8	110.0	98.5	109.1	96.1	104.9	86.4	80.6	105.8	
Tsumura	90.4	99.4	90.5	90.6	95.3	109.4	110.7	107.4	121.3	105.1	95.5	102.0	99.4	98.0	105.8	115.1	
Nippon Shinyaku	118.7	81.4	96.3	99.4	107.5	106.2	105.0	96.1	105.3	94.1	108.6	153.0	88.7	126.3	83.8	102.5	
Kyorin Holdings	79.6	85.2	125.8	97.3	112.1	105.8	111.8	79.2	102.7	119.0	96.3	104.2	105.0	75.8	101.8	91.3	
Mochida	85.6	95.1	104.1	102.0	109.5	121.4	119.9	89.7	95.5	98.5	114.2	113.2	78.2	109.2	91.4	88.3	
Kaken	96.4	108.1	104.2	113.0	102.3	87.0	96.2	95.6	111.8	108.1	77.3	109.6	126.4	125.9	62.5	105.0	
Kissei	106.9	99.0	108.5	101.7	93.3	111.6	83.4	102.7	109.6	128.2	97.4	98.4	102.2	110.8	68.5	89.4	
Zeria	103.4	85.2	93.3	95.2	114.4	90.0	100.5	106.1	132.6	132.4	86.8	98.6	86.7	93.2	92.8	85.3	
R&D/Sales (%)																	
Takeda	14.0	14.8	20.1	29.5	20.2	20.4	18.7	20.8	20.3	21.5	19.1	18.0	18.4	17.6	15.0	14.3	
Astellas	16.2	18.2	13.8	16.5	20.1	22.8	19.6	18.1	18.4	16.6	16.4	15.9	17.0	16.7	15.5	15.2	
Otsuka Holdings	13.8	12.3	11.0	14.2	14.0	14.6	13.8	15.8	17.1	14.1	13.9	14.1	14.2	16.0	17.2	18.0	
Daiichi Sankyo	17.1	18.4	18.6	21.9	20.7	20.1	19.7	18.3	17.0	20.7	21.2	22.4	24.6	21.9	20.1	23.6	
Chugai	15.3	16.7	15.7	16.3	12.9	14.4	15.0	14.1	17.5	17.5	16.8	17.3	17.4	17.1	15.7	15.0	
Eisai	15.5	16.1	30.7	20.0	22.3	18.9	19.3	21.0	21.7	24.1	22.3	20.9	23.3	22.5	20.1	23.3	
Sumitomo Dainippon	12.1	15.6	17.9	20.0	17.3	18.0	16.2	17.2	18.0	19.2	20.3	19.6	18.6	22.3	23.8	25.7	
Mitsubishi Tanabe	19.2	18.7	17.7	17.6	20.5	16.1	17.3	15.9	17.1	16.8	17.4	15.3	18.2	20.4	20.9	19.2	
Shionogi	16.4	18.8	18.8	23.2	18.6	18.0	20.1	18.7	17.9	17.8	16.1	17.7	17.4	17.4	14.4	16.4	
Kyowa Kirin	9.3	9.4	8.7	10.5	11.3	10.7	14.0	13.4	12.8	14.3	14.2	15.7	13.9	14.0	17.5	20.2	
Ono	22.9	25.0	26.7	28.1	29.2	31.7	30.4	31.3	33.5	30.6	27.2	23.6	26.4	24.3	22.8	18.3	
Taisho Pharmaceutical Holdings	8.5	11.8	9.9	10.7	10.9	8.8	8.9	8.2	7.4	7.4	7.5	7.6	7.6	8.0	7.9	7.2	
Santen	14.2	13.6	12.5	18.2	12.8	11.9	15.1	14.0	12.8	10.8	10.2	11.5	10.8	10.2	9.7	9.7	
Hisamitsu	11.7	9.0	9.4	7.7	8.0	10.1	10.7	8.9	9.2	8.8	9.2	9.9	10.2	9.1	7.5	5.1	
Tsumura	5.4	5.3	4.6	4.4	4.1	4.4	4.8	4.6	5.4	5.7	5.3	5.3	5.1	4.9	5.1	13.2	
Nippon Shinyaku	18.7	14.6	13.3	12.5	13.4	14.1	14.0	12.9	12.5	11.2	11.6	15.1	13.0	14.6	12.0	9.4	
Kyorin Holdings	13.6	11.2	13.4	11.6	11.8	12.0	13.5	10.3	10.2	11.9	10.9	11.8	12.9	9.5	10.0	10.5	
Mochida	12.3	11.1	11.5	11.7	12.2	14.6	16.2	14.0	12.7	13.5	14.6	15.6	11.2	11.9	11.7	9.4	
Kaken	8.0	8.5	8.5	9.3	9.3	7.9	7.5	7.2	7.9	8.1	5.4	6.4	8.3	10.9	7.2	9.0	
Kissei	16.5	16.3	18.5	17.9	17.3	18.7	15.5	16.5	16.0	20.7	19.8	19.4	19.2	21.7	17.0	13.9	
Zeria	12.2	10.9	10.8	10.8	11.6	10.7	10.0	10.6	12.0	16.2	13.7	13.0	11.4	11.0	10.5	9.8	

Note :

- Top 21 companies in consolidated sales in FY2020
(excluding companies with a pharmaceutical sales share of less than 50% and private companies)
- 'R&D/Sales (%)' is the ratio of research cost to total sales.
- Merged companies' pre-merger numbers are the combined numbers of company before merger.
- R&D Expenditure of Kyorin Pharmaceutical Holdings in 2005 was that of Kyorin Pharmaceutical.
R&D Expenditures of Otsuka Holdings in 2005-2007 were those of Otsuka Pharmaceutical.
- Chugai has adopted IFRS in their financial statements since FY2013.
Takeda, Astellas, Eisai, Daiichi Sankyo, Santen, and Ono have adopted IFRS in their financial statements since FY2014.
Otsuka Holdings and Mitsubishi Tanabe have adopted IFRS in their financial statements since FY2016.
Kyowa Kirin has adopted IFRS in their financial statements since FY2017.

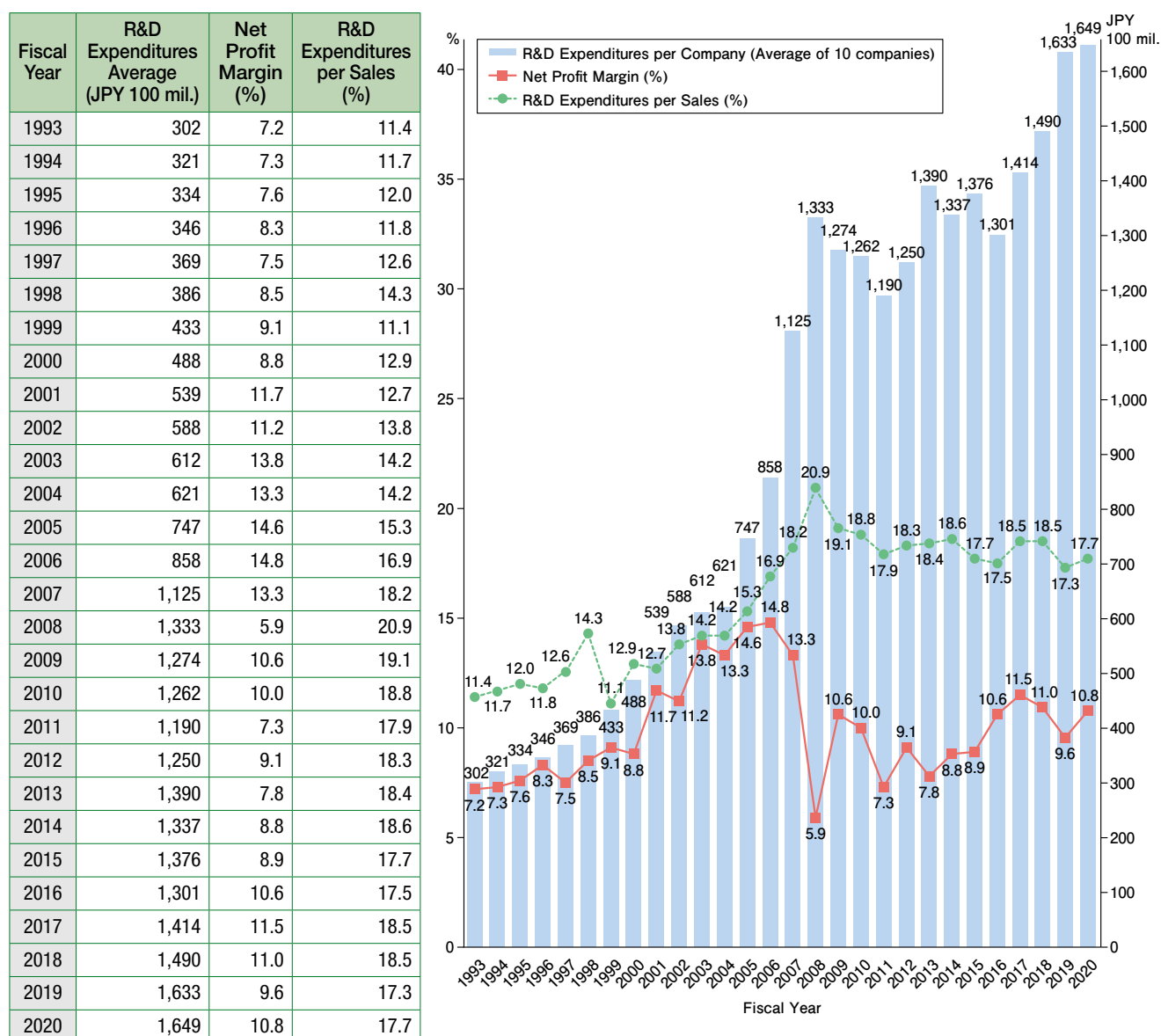
Source : SPEEDA (UZABASE, Inc.), Financial statements

R&D Expenditures of Leading Pharmaceutical Manufacturers (Worldwide) A-7-3

Company	Currency	Fiscal Year																				
		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Expenditures																						
Novartis	USD mil.	4,657	4,189	4,339	3,756	4,207	4,846	5,321	6,430	7,217	7,469	9,070	9,583	9,332	9,852	9,943	9,116	9,039	8,972	9,074	9,402	8,980
Roche	CHF mil.	3,950	3,893	4,257	4,766	5,093	5,705	6,590	7,598	7,904	8,896	10,026	8,326	9,552	9,270	9,895	9,581	11,532	11,292	12,092	12,774	13,009
AbbVie	USD mil.	1,351	1,578	1,562	1,734	1,697	1,821	2,255	2,506	2,688	2,744	3,724	2,618	2,778	2,855	3,297	4,285	4,366	4,982	10,329	6,407	6,557
Johnson & Johnson	USD mil.	2,926	3,591	3,957	4,684	5,203	6,312	7,125	7,680	7,577	6,986	6,844	7,548	7,665	8,183	8,494	9,046	9,095	10,554	10,775	11,355	12,159
Merck (USA)	USD mil.	2,344	2,456	2,677	3,178	4,010	3,848	4,783	4,883	4,805	5,845	10,991	8,467	8,168	7,503	7,180	6,704	10,124	10,208	9,752	9,872	13,558
Bristol-Myers Squibb	USD mil.	1,939	2,259	2,218	2,279	2,500	2,746	2,991	3,282	3,585	3,647	3,566	3,839	3,904	3,731	4,534	5,920	4,940	6,411	6,345	6,148	11,143
Pfizer	USD mil.	4,435	4,847	5,176	7,131	7,684	7,442	7,599	8,089	7,945	7,845	9,413	9,112	7,870	6,678	8,393	7,690	7,872	7,657	8,006	8,650	9,405
Sanofi	EUR mil.	945	1,031	1,218	1,316	7,454	4,044	4,430	4,537	4,575	4,583	4,401	4,811	4,922	4,770	4,824	5,259	5,172	5,472	5,894	6,018	5,529
GlaxoSmithKline	GBP mil.	2,510	2,555	2,732	2,791	2,839	3,136	3,457	3,327	3,681	4,106	4,457	4,009	3,968	3,923	3,450	3,560	3,628	4,476	3,893	4,568	5,098
AstraZeneca	USD mil.	2,893	2,773	3,069	3,451	3,803	3,379	3,902	5,162	5,179	4,409	5,318	5,523	5,243	4,821	5,579	5,997	5,890	5,757	5,932	6,059	6,213
Amgen	USD mil.	845	865	1,117	1,655	2,028	2,314	3,366	3,266	3,030	2,864	2,894	3,167	3,380	4,083	4,297	4,070	3,840	3,562	3,737	4,116	4,207
Gilead Sciences	USD mil.	-	-	-	-	-	-	-	-	-	914	1,073	1,229	1,760	2,120	2,854	3,014	5,098	3,734	5,018	9,106	5,039
Eli Lilly	USD mil.	2,019	2,235	2,149	2,350	2,691	3,026	3,129	3,487	3,841	4,327	4,884	5,021	5,278	5,531	4,734	4,796	5,244	5,282	5,307	5,595	6,086
Bayer	EUR mil.	2,393	2,559	2,577	2,414	2,107	1,886	2,297	2,578	2,653	2,746	3,053	2,932	3,013	3,190	3,574	4,329	4,678	4,504	5,246	5,342	7,126
Novo Nordisk	DKK mil.	3,390	3,970	4,139	4,193	4,352	5,085	6,316	8,538	7,856	7,864	9,602	9,628	10,897	11,733	13,762	13,608	14,563	14,014	14,805	14,220	15,462
Boehringer Ingelheim	EUR mil.	968	1,019	1,304	1,176	1,232	1,360	1,574	1,730	2,109	2,215	2,453	2,516	2,795	2,743	2,654	3,004	3,112	3,078	3,164	3,462	3,696
Teva	USD mil.	105	107	165	214	338	369	495	581	786	802	933	1,095	1,356	1,427	1,395	1,525	2,111	1,848	1,213	1,010	997
Viatriis Inc	USD mil.	-	-	-	-	-	-	-	-	-	275	282	295	401	508	582	672	827	783	705	640	555
Baxter	USD mil.	-	-	-	-	-	533	614	760	868	917	915	946	1,156	1,246	1,421	603	647	617	655	595	521
Merck (Germany)	EUR mil.	-	-	-	-	-	713	615	1,028	1,234	1,345	1,397	1,517	1,511	1,504	1,704	1,709	1,976	2,140	2,225	2,268	2,288
Change (%)																						
Novartis	%	109.7	90.0	103.6	132.1	112.0	115.2	109.8	120.8	112.2	103.5	121.4	105.7	97.4	105.6	100.9	91.7	99.2	99.3	101.1	110.8	95.5
Roche	%	104.4	98.6	109.4	112.0	106.9	99.0	115.5	115.3	104.0	112.6	101.5	83.0	114.7	97.0	106.7	96.8	120.4	97.9	107.1	105.6	101.8
AbbVie	%	113.1	116.8	99.0	111.0	97.9	107.3	123.8	111.1	107.3	102.1	135.7	-	106.1	102.8	115.5	130.0	101.9	114.1	207.3	62.0	102.3
Johnson & Johnson	%	112.5	122.7	110.2	118.4	111.1	121.3	112.9	107.8	98.7	92.2	98.0	110.3	101.6	106.8	103.8	106.5	100.5	116.0	102.1	105.6	107.1
Merck (USA)	%	113.3	104.8	109.0	118.7	126.2	96.0	124.3	102.1	98.4	121.6	188.0	77.0	96.5	91.9	95.7	93.4	151.0	100.8	95.5	101.2	137.3
Bristol-Myers Squibb	%	105.2	116.5	98.2	102.8	109.7	99.0	108.9	109.7	109.2	101.7	97.8	107.7	101.7	95.6	121.5	130.6	83.4	129.8	99.0	97.1	181.2
Pfizer	%	159.8	109.3	106.8	137.8	107.8	96.9	102.1	106.4	98.2	98.7	120.0	96.8	86.4	84.9	125.7	91.6	102.4	97.3	104.6	108.0	108.7
Sanofi	%	103.7	109.1	118.1	108.0	566.5	109.8	109.5	102.4	100.8	100.2	96.0	109.3	102.3	96.9	101.1	109.0	101.8	105.8	107.7	102.1	91.9
GlaxoSmithKline	%	-	101.8	106.9	102.2	101.7	110.5	110.2	96.2	110.6	111.5	108.5	89.9	99.0	98.9	87.9	103.2	101.9	123.4	87.0	117.3	111.6
AstraZeneca	%	99.0	95.9	110.7	112.4	110.2	88.9	115.5	132.3	100.3	85.1	120.6	103.9	94.9	92.0	115.7	107.5	98.2	97.7	103.0	102.1	102.5
Amgen	%	-	102.4	129.1	148.2	122.5	114.1	145.5	97.0	92.8	94.5	101.0	109.4	106.7	120.8	105.2	94.7	94.3	92.8	104.9	110.1	102.2
Gilead Sciences	%	-	-	-	-	-	-	-	-	-	126.6	114.2	114.5	143.2	120.5	134.6	105.6	169.1	73.2	134.4	181.5	55.3
Eli Lilly	%	113.2	110.7	96.2	109.4	114.5	112.4	103.4	111.4	110.2	112.7	112.9	102.8	105.1	104.8	85.6	101.3	109.3	100.7	100.5	110.8	108.8
Bayer	%	106.3	106.9	100.7	93.7	87.3	89.5	121.8	112.2	102.9	103.5	111.2	96.0	102.8	105.9	112.0	121.1	108.1	96.3	116.5	104.6	133.4
Novo Nordisk	%	-	117.1	104.3	101.3	103.8	116.8	124.2	135.2	92.0	100.1	122.1	100.3	113.2	107.7	117.3	98.9	107.0	96.2	105.6	96.0	108.7
Boehringer Ingelheim	%	-	105.3	128.0	90.2	104.8	110.4	115.7	109.9	121.9	105.0	110.7	102.6	111.1	98.1	96.8	113.2	103.6	98.9	102.8	91.4	106.8
Teva	%	-	101.9	154.2	129.7	157.9	109.1	134.1	117.4	135.3	102.0	116.3	117.4	123.8	105.2	97.8	102.5	138.4	87.5	65.6	83.3	98.7
Viatriis Inc	%	-	-	-	-	-	-	-	-	-	86.8	102.5	104.6	136.1	126.5	114.5	115.5	123.1	94.7	89.9	90.8	86.7
Baxter	%	-	-	-	-	-	103.1	115.2	123.8	114.2	105.6	99.8	103.4	122.2	107.8	114.0	98.9	107.3	95.4	106.2	91.0	87.6
Merck (Germany)	%	-	-	-	-	-	119.0	86.3	167.2	120.0	109.0	103.9	108.6	99.6	113.3	100.3	115.6	108.3	104.0	101.8	100.9	100.9
R&D/Sales (%)																						
Novartis	%	13.0	13.1	13.4	15.1	14.9	15.0	14.8	16.2	17.4	16.9	17.9	16.4	16.5	17.0	17.1	18.2	18.6	18.3	17.1	19.8	18.0
Roche	%	13.8	13.3	14.3	15.3	16.3	16.1	15.7	16.5	17.3	18.1	21.1	19.6	21.0	19.8	20.8	19.9	22.8	20.3	21.3	20.8	22.3
AbbVie	%	9.8	9.7	8.8	8.8	8.6	8.2	10.0	9.7	9.1	8.9	10.6	15.0	15.1	15.2	19.4	18.7	17.0	17.7	31.5	19.3	14.3
Johnson & Johnson	%	10.0	10.9	10.9	11.2	11.0	12.5	13.4	12.6	11.9	11.3	11.1	11.6	11.4	11.5	11.4	12.9	12.7	13.8	13.2	13.8	14.7
Merck (USA)	%	5.8	5.1	5.2	14.1	17.5	17.5	21.1	20.2	20.1	21.3	23.9	17.6	17.3	17.0	17.0	25.4	25.4	23.1	21.1	28.2	28.2
Bristol-Myers Squibb	%	10.6	11.6	12.2	10.9	12.9	12.9	17.1	17.0	17.4	19.4	18.3	18.1	22.2	22.8	28.6	35.7	25.4	30.9	28.1	23.5	26.2
Pfizer	%	15.0	15.0	16.0	15.8	14.6	14.5	15.7	16.7	16.5	15.7	13.9	13.5	13.3	12.9	16.9	15.7	14.9	14.6	14.9	16.7	22.4
Sanofi	%	15.8	15.9	16.4	16.4	49.6	14.8	15.6	16.2	16.6	15.6	14.5	14.4	14.1	14.5	14.3	14.2	14.2	15.6	16.5	16.7	14.8
GlaxoSmithKline	%	13.9	12.5	12.9	13.0	13.9	14.5	14.9	14.6	15.1	14.5	15.7	14.6	15.0	14.8	15.0	14.9	13.0	14.8	12.6	13.5	15.0
AstraZeneca	%	15.8	16.8	17.2	18.3	17.7	14.1	14.7	17.5	16.4	13.4	16.0	16.4	18.7	18.8	21.4	24.3	25.6	25.6	26.9	24.8	23.3
Amgen	%	23.3	21.5	20.2	19.8	19.2	19.2	23.6	22.1	20												

Trends of R&D Expenditures and Profits as Sales Ratio (Japan)

A-7-4



Note :

1. Companies surveyed : 10 companies

FY1993 to 2004 : Takeda, Sankyo, Yamanouchi, Daiichi, Taisho, Eisai, Shionogi, Fujisawa, Chugai and Tanabe

FY2005 : Takeda, Astellas, Eisai, Sankyo, Daiichi, Chugai, Mitsubishi, Sumitomo Dainippon, Shionogi and Taisho

FY2006 : Takeda, Astellas, Daiichi Sankyo, Eisai, Sumitomo Dainippon, Mitsubishi, Shionogi, Tanabe, Taisho and Ono

From FY2007 : Takeda, Astellas, Daiichi Sankyo, Eisai, Mitsubishi Tanabe, Sumitomo Dainippon, Shionogi, Taisho (from FY2011 Taisho Holdings), Ono and Otsuka Holdings (took Otsuka's consolidated result for 2007)

From FY2019 : Takeda, Astellas, Daiichi Sankyo, Eisai, Mitsubishi Tanabe, Sumitomo Dainippon, Shionogi, Ono, Otsuka Holdings, and Kyowa Kirin

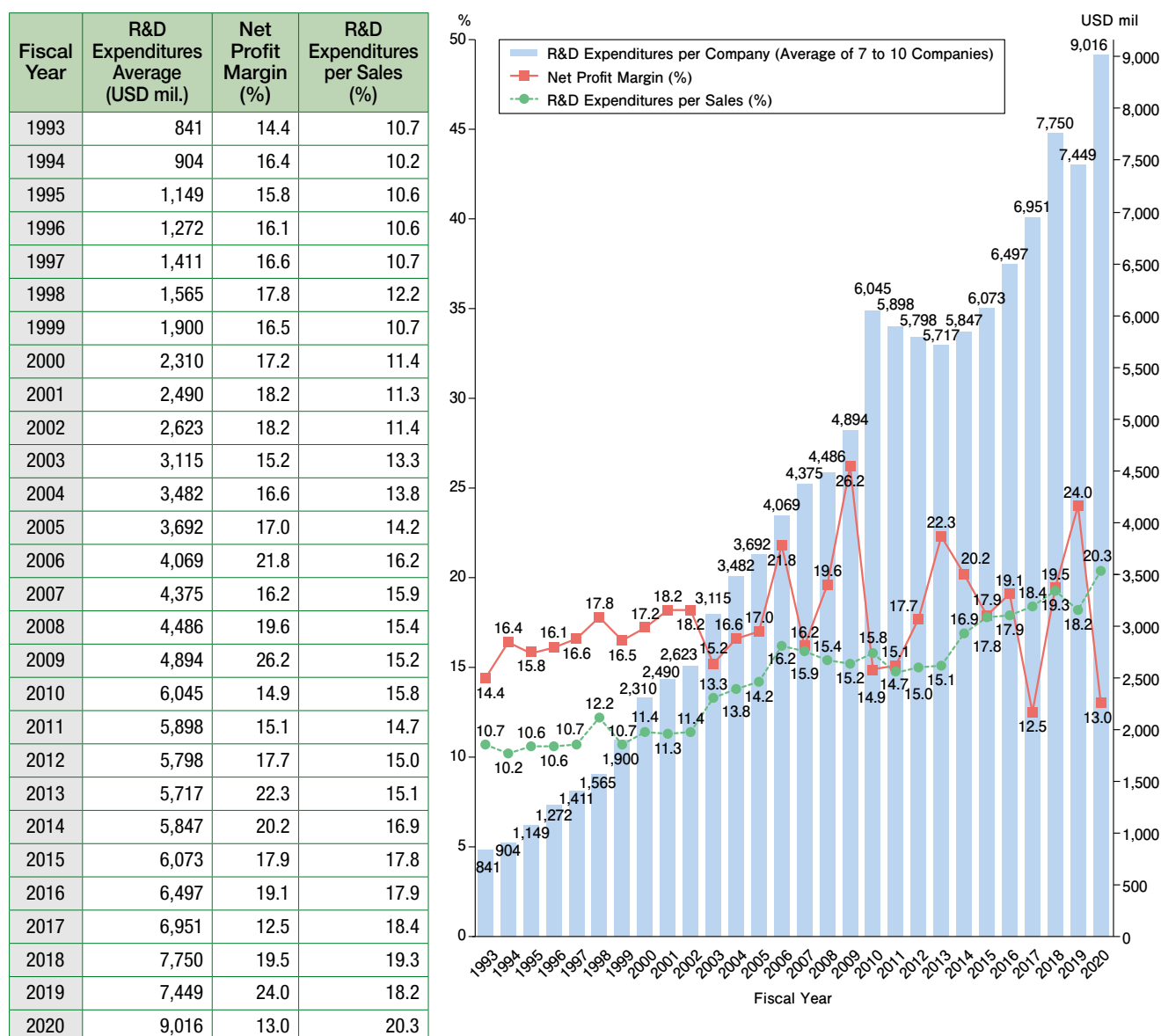
2. Consolidated basis since 1999.

3. Chugai had an irregular 9 months financial result (Apr.-Dec.) in FY2003

Source : SPEEDA (UZABASE, Inc.), Financial statements

Trends of R&D Expenditures and Profits as Sales Ratio (USA)

A-7-5



Note :

1. Companies surveyed : 7 to 10 leading companies

FY1993 to 94 : 10 companies (Abbott, AHP, Bristol-Myers Squibb, Eli Lilly, Johnson & Johnson, Merck, Pfizer, Schering-Plough, Upjohn, Warner Lambert)

FY1995 : 10 companies (Abbott, AHP, Bristol-Myers Squibb, Eli Lilly, Johnson & Johnson, Merck, Pfizer, Schering-Plough, Pharmacia & Upjohn, Warner Lambert)

FY1996 to 98 : 10 companies (Abbott, AHP, Bristol-Myers Squibb, Eli Lilly, Johnson & Johnson, Merck, Pfizer, Schering-Plough, Pharmacia & Upjohn, Warner Lambert)

FY1999 : 8 companies (Abbott, AHP, Bristol-Myers Squibb, Eli Lilly, Johnson & Johnson, Merck, Pfizer, Schering-Plough)

FY2000 to 02 : 9 companies (Abbott, Bristol-Myers Squibb, Eli Lilly, Johnson & Johnson, Merck, Pfizer, Pharmacia, Schering-Plough, Wyeth)

*Pfizer acquired Warner Lambert. AHP to change name to Wyeth.

FY2003 to 05 : 8 companies (Abbott, Bristol-Myers Squibb, Eli Lilly, Johnson & Johnson, Merck, Pfizer, Schering-Plough, Wyeth)

*Pfizer acquired Pharmacia.

FY2006 to 08 : 9 companies (Abbott, Amgen, Bristol-Myers Squibb, Eli Lilly, Johnson & Johnson, Merck, Pfizer, Schering-Plough, Wyeth)

*Added Amgen.

FY2009 to 13 : 7 companies (Abbott, Amgen, Bristol-Myers Squibb, Eli Lilly, Johnson & Johnson, Merck, Pfizer)

*Merck incorporated Schering-Plough, Pfizer acquired Wyeth.

*In 2013, Abbott Laboratories (Abbott) separated into two traded companies as AbbVie and Abbott.

The enumeration data as of 2013 is combined both of two companies' data as one firm.

FY2014 to 19 : 7 companies (AbbVie, Amgen, Bristol-Myers Squibb, Eli Lilly, Johnson & Johnson, Merck, Pfizer)

A part of the past data has been updated due to original data revision.

Source : SPEEDA (UZABASE, Inc.), Annual Report

R&D Expenditures as a Percentage of Sales by Industry (Japan)

A-7-6

(Unit: %)

Industry / Fiscal Year	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
All Industries*	2.78	2.73	3.01	3.29	3.06	2.98	3.11	3.08	2.99	2.93	3.11	3.31	3.22	3.28	3.27	3.33	3.28	3.46	3.33	3.30	3.39	3.41	3.36
Agriculture, Forestry & Fisheries	0.50	0.43	0.58	0.54	0.53	0.74	0.70	0.75	0.83	3.88	1.72	2.69	4.24	3.57	1.91	2.29	2.10	2.48	2.19	2.09	2.24	2.03	2.31
Mining, Quarrying & Gravel Extraction	1.13	0.98	0.99	1.24	0.93	0.93	1.27	1.29	0.88	0.59	0.72	0.81	0.83	0.33	0.34	0.38	0.39	0.33	0.36	0.31	0.35	0.43	0.41
Construction	0.54	0.45	0.48	0.42	0.39	0.42	0.40	0.40	0.40	0.36	0.41	0.44	0.47	0.43	0.41	0.41	0.36	0.36	0.28	0.41	0.48	0.52	0.57
Manufacturing	3.36	3.43	3.70	4.03	3.99	3.71	3.87	3.87	3.65	3.62	3.92	4.09	3.93	4.14	4.11	4.15	4.11	4.31	4.25	4.11	4.18	4.28	4.41
Food	0.98	0.99	1.01	0.96	1.08	1.11	1.30	1.20	0.99	1.01	1.03	1.03	1.07	1.14	1.05	1.14	0.87	1.02	1.02	1.10	1.08	1.23	0.86
Textiles	1.76	1.76	2.17	1.87	2.25	1.70	1.88	2.43	2.14	2.84	3.55	4.06	3.80	3.81	4.55	4.07	4.18	4.06	3.12	2.73	2.71	3.06	3.85
Pulp, Paper & Paper Products	0.88	0.90	0.98	1.09	1.16	1.16	1.28	1.24	1.17	1.01	0.93	0.87	0.92	0.99	0.82	0.61	0.87	0.77	0.87	0.86	0.72	0.87	1.17
Publishing, Printing & Allied Industries	-	-	-	-	1.35	1.26	1.23	1.35	1.87	1.48	1.45	1.29	1.28	1.29	1.07	0.71	0.91	0.90	0.99	0.90	1.04	1.05	0.96
Pharmaceuticals	8.02	8.03	8.60	8.52	8.91	8.43	8.64	10.01	10.95	12.11	11.74	11.66	12.02	11.96	11.81	11.70	12.21	11.93	10.04	11.10	11.05	10.08	9.68
Chemicals	4.89	5.30	5.36	5.73	3.59	4.13	4.08	3.92	3.10	3.13	3.66	3.85	3.56	3.81	3.93	3.64	3.59	3.97	4.25	3.95	4.03	4.27	3.63
Industrial Chemicals	4.01	4.08	3.64	4.07	3.90	3.66	3.75	3.48	2.63	2.84	3.43	3.54	3.31	3.45	3.53	3.16	3.27	3.59	3.93	3.93	3.89	4.37	3.53
Oil & Pairs	3.90	4.47	4.43	4.71	4.13	4.34	4.16	4.18	3.96	3.07	3.35	3.58	3.48	3.53	3.82	4.28	3.70	4.16	4.40	4.03	4.07	4.10	3.96
Other Chemicals	4.06	4.75	5.11	5.07	2.95	5.13	5.00	5.03	4.16	4.06	4.71	5.11	4.41	5.12	5.20	4.54	4.51	4.86	4.87	3.95	4.34	4.20	3.63
Petroleum & Coal Products	0.64	0.54	0.24	0.26	0.23	0.23	0.24	0.22	0.25	0.22	0.22	0.27	0.26	0.22	0.20	0.19	0.19	0.26	0.31	0.28	0.25	0.29	0.38
Plastic Products	2.37	2.64	2.38	2.83	2.44	2.47	2.27	2.09	2.64	2.46	2.50	2.46	2.61	3.01	3.07	2.92	3.08	2.67	2.35	2.56	2.98	3.02	3.18
Rubber Products	3.20	3.37	3.64	4.02	4.20	4.34	4.33	4.31	3.99	3.61	4.06	4.47	3.84	3.48	3.70	3.93	3.94	4.24	4.01	4.10	4.17	4.01	4.45
Ceramics, Stone & Clay Products	2.60	2.39	2.48	2.84	2.53	2.30	2.28	2.32	2.01	2.38	2.84	3.11	2.67	3.22	3.25	3.09	2.71	2.12	2.59	3.26	3.36	3.16	3.49
Iron & Steel	2.33	1.96	1.64	1.67	1.50	1.45	1.32	1.05	1.01	1.03	0.97	1.39	1.29	1.38	1.18	1.19	1.24	1.51	1.59	1.42	1.32	1.57	1.43
Non-ferrous Metals & Products	1.80	2.35	2.37	2.49	2.45	2.13	2.20	1.77	1.57	1.33	1.99	1.97	2.12	1.93	1.94	1.93	1.73	1.86	1.93	1.44	1.69	1.90	1.82
Metal Products	1.60	1.35	1.70	1.49	1.39	1.25	1.45	1.89	1.18	1.55	1.06	1.00	1.60	1.45	1.31	1.33	1.31	1.07	1.40	1.38	1.29	1.37	0.98
General Machinery	2.99	3.26	3.93	4.16	4.43	4.12	4.08	3.99	3.72	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Machinery & Tools for Production	-	-	-	-	-	-	-	-	-	3.17	3.74	4.51	3.88	3.55	3.79	3.92	3.53	3.79	4.07	3.57	4.32	4.36	4.60
Machinery & Tools for Institutional Use	-	-	-	-	-	-	-	-	-	6.97	8.25	9.43	8.42	8.76	8.63	8.81	8.77	8.96	8.85	9.26	9.26	8.81	8.84
Electric Component, Devices, Electric Circuit	-	-	-	-	-	-	-	5.81	5.38	5.01	5.83	5.65	4.54	6.39	5.88	5.49	5.34	5.23	5.19	4.79	5.37	5.67	6.87
Electric Machinery	-	-	-	-	5.20	5.05	4.97	4.72	4.98	4.88	5.68	6.11	5.48	5.98	6.34	6.21	6.01	6.02	5.67	5.79	6.31	6.68	5.20
Electronic Equipment & Electric Measurements	-	-	-	-	4.98	5.14	5.10	4.48	5.22	8.53	8.89	8.58	8.80	8.03	8.65	8.54	6.29	9.67	7.39	8.54	8.29	8.54	8.43
Other Electric Machinery	-	-	-	-	5.26	5.02	4.92	4.81	4.91	4.38	5.21	5.70	5.04	5.66	6.02	5.87	5.95	5.54	5.43	5.42	6.04	6.43	4.70
Information & Telecommunications Equipment	-	-	-	-	-	-	-	6.65	6.29	6.09	6.57	6.29	5.81	6.44	6.63	6.29	6.26	6.29	6.72	6.39	6.14	5.88	6.10
Transportation Equipment	3.65	3.34	3.90	4.25	4.35	4.40	4.56	4.47	4.31	4.44	4.95	4.47	4.49	4.60	4.51	4.77	5.08	5.15	4.99	4.95	4.96	5.04	6.54
Motor Vehicles & Its Accessories	3.73	3.46	4.09	4.44	4.56	4.63	4.80	4.72	4.48	4.62	5.22	4.76	4.68	4.78	4.69	4.91	5.25	5.29	5.11	5.06	5.10	5.21	6.85
Other Transport Equipment	3.20	2.74	2.86	3.15	1.87	1.69	1.55	1.50	1.62	1.74	1.73	1.36	1.88	1.90	1.96	2.60	2.63	3.12	3.12	3.38	3.12	2.78	3.20
Precision Instruments	5.94	5.16	6.34	6.58	7.77	6.26	7.44	7.69	7.52	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Manufacturing	1.21	1.50	1.70	1.79	1.82	2.14	2.58	2.04	1.84	1.84	1.82	2.09	2.32	2.49	2.41	2.75	2.01	1.87	1.53	1.65	2.21	2.18	1.69
Information & Communication	-	-	-	-	1.97	2.08	2.29	2.16	1.88	1.69	2.18	1.99	1.96	2.06	2.20	1.87	2.17	2.60	2.53	1.92	2.05	1.84	1.36
Information Services	-	-	5.79	3.69	2.41	3.13	4.09	3.23	2.58	2.14	2.74	2.95	2.99	2.93	2.53	1.82	1.62	2.32	2.33	2.18	2.63	1.89	2.00

Note :

- The R&D expenditures described here refer to research expenditures used internally, as defined in "Report on the Survey of Research and Development" by the Ministry of Internal Affairs and Communications. They mean research expenditures used within the companies out of their own funds and funds received from external sources. They do not include research expenditures paid to external parties, such as contract research and joint research.
- Japan Standard Industrial Classification was revised in FY2007.
- All Industries* : Excluding special public corporations, independent administrative institutions (IAIs), and finance and insurance industries.

Source : Ministry of Internal Affairs and Communications, Report on the Survey of Research and Development
<http://www.stat.go.jp/data/kagaku/index.html>

R&D Expenditures by Industry and Type (Japan)

A-7-7

FY2020

(Unit: %)

Industry	Basic Research	Applied Research	Development
All Industries	7.4	15.9	76.7
Agriculture, Forestry & Fisheries	19.3	7.4	73.3
Mining, Quarrying & Gravel Extraction	6.5	31.3	62.2
Construction	8.6	25.1	66.3
Manufacturing	7.0	16.1	76.8
Food	10.7	28.7	60.5
Textiles	15.2	34.7	50.1
Pulp, Paper & Paper Products	3.6	8.3	88.1
Publishing, Printing & Allied Industries	16.8	40.3	42.9
Pharmaceuticals	19.4	21.1	59.5
JPMA*	27.3	15.7	57.0
Chemicals	7.7	24.4	67.9
Petroleum & Coal Products	2.0	19.9	78.0
Plastic Products	3.7	18.5	77.8
Rubber Products	4.8	14.0	81.1
Ceramics, Stone & Clay Products	9.9	23.1	67.0
Iron & Steel	9.8	22.7	67.5
Non-ferrous Metals & Products	4.9	31.6	63.4
Metal Products	2.9	8.5	88.6
General Machinery	7.8	15.5	76.7
Machinery & Tools for Production	2.6	16.0	81.5
Machinery & Tools for Institutional Use	4.8	11.5	83.7
Electric Component, Devices, Electric Circuit	1.6	18.1	80.3
Electric Machinery	3.2	25.5	71.3
Electronic Equipment & Electric Measurements	1.2	11.3	87.5
Other Electric Machinery	3.7	29.5	66.8
Information & Telecommunications Equipment	6.6	18.6	74.8
Transportation Equipment	5.9	7.3	86.8
Motor Vehicles & its Accessories	5.9	6.2	87.9
Other Transport Equipment	6.8	32.4	60.8
Other Manufacturing	4.6	26.5	68.9
Information & Communication	0.7	6.5	92.8
Information Services	0.9	7.6	91.5

Note :

1. The "R&D expenditures by Type" described here refers to research expenditures by type as defined in "Report on the Survey of Research and Development" by the Ministry of Internal Affairs and Communications. Research expenditures by Type refer to research expenditures used internally (within the company) for natural science, which are classified into basic, applied, and development.
2. JPMA represents 30 companies of JPMA members responded to the survey.

Source :

Ministry of Internal Affairs and Communications, Report on the Survey of Research and Development
<http://www.stat.go.jp/data/kagaku/index.html>

R&D Expenditures by Developmental Stage (USA)

A-7-8

	Year	Prehuman / Preclinical	Phase I	Phase II	Phase III	Approval	Phase IV	Subtotal	Uncategorized	Total
Expenditures (USD mil.)	2001	9,647.4	1,659.2	3,151.2	4,502.2	2,307.9	3,286.9	24,554.8	5,167.9	29,722.7
	2002	10,481.6	1,490.2	2,968.1	6,268.4	2,455.0	3,855.2	27,518.5	3,493.7	31,012.2
	2003	10,983.3	2,333.6	3,809.6	8,038.1	4,145.4	3,698.1	33,008.1	1,445.2	34,453.3
	2004	9,585.7	2,473.3	3,770.4	9,682.1	3,415.3	4,902.9	33,829.7	3,188.4	37,018.1
	2005	10,258.1	2,318.9	4,670.9	10,176.4	2,750.0	5,284.2	35,458.5	4,399.4	39,857.9
	2006	11,816.1	2,902.7	5,687.4	12,187.3	2,649.3	5,584.6	40,827.4	2,611.6	43,439.0
	2007	13,087.4	3,547.7	6,251.0	13,664.7	2,413.8	6,439.9	45,404.5	2,498.6	47,903.1
	2008	12,795.6	3,889.6	6,089.7	15,407.4	2,225.8	6,835.8	47,244.0	139.1	47,383.1
	2009	11,717.4	3,752.9	7,123.7	16,300.1	2,046.9	5,302.7	46,243.8	197.8	46,441.6
	2010	12,578.2	4,130.3	6,483.3	18,598.1	3,108.3	4,839.0	49,737.2	972.6	50,709.8
	2011	10,466.3	4,211.0	6,096.4	17,392.9	4,033.4	4,760.9	46,961.0	1,684.0	48,645.0
	2012	11,816.3	3,823.3	5,756.2	15,926.8	3,834.6	6,776.5	47,933.8	1,653.8	49,587.6
	2013	10,717.8	3,666.9	5,351.3	15,239.2	5,395.4	7,574.2	47,944.8	3,668.7	51,613.6
	2014	11,272.7	4,722.0	5,697.8	15,264.4	2,717.7	8,827.0	48,501.6	4,751.5	53,253.2
	2015	-	-	-	-	-	-	-	-	-
	2016	11,292.6	6,054.8	7,426.1	18,327.3	2,413.8	7,466.1	52,980.7	12,557.6	65,538.3
	2017	11,168.7	6,201.0	8,277.4	21,377.0	2,788.7	8,152.9	57,965.7	13,433.8	71,399.4
	2018	13,069.0	7,749.4	8,436.0	23,033.2	2,647.6	9,230.2	64,165.4	15,437.4	79,602.8
	2019	13,034.3	7,260.8	8,045.7	23,979.8	3,538.8	9,321.1	65,180.5	17,775.7	82,956.3
	2020	13,604.0	6,968.3	8,429.4	24,773.1	3,932.5	10,512.4	68,219.7	22,906.6	91,126.3
Share (%)	2001	39.3	6.8	12.8	18.3	9.4	13.4	100.0		
	2002	38.1	5.4	10.8	22.8	8.9	14.0	100.0		
	2003	33.3	7.1	11.5	24.4	12.6	11.2	100.0		
	2004	28.3	7.3	11.1	28.6	10.1	14.5	100.0		
	2005	28.9	6.5	13.2	28.7	7.8	14.9	100.0		
	2006	28.9	7.1	13.9	29.9	6.5	13.7	100.0		
	2007	28.8	7.8	13.8	30.1	5.3	14.2	100.0		
	2008	27.1	8.2	12.9	32.6	4.7	14.5	100.0		
	2009	25.3	8.1	15.4	35.2	4.4	11.5	100.0		
	2010	25.3	8.3	13.0	37.4	6.2	9.7	100.0		
	2011	22.3	9.0	13.0	37.0	8.6	10.1	100.0		
	2012	24.7	8.0	12.0	33.2	8.0	14.1	100.0		
	2013	22.4	7.6	11.2	31.8	11.3	15.8	100.0		
	2014	23.5	9.8	11.9	31.8	5.7	18.4	100.0		
	2015	-	-	-	-	-	-	-		
	2016	21.3	11.4	14.0	34.6	4.6	14.1	100.0		
	2017	19.3	10.7	14.3	36.9	4.8	14.1	100.0		
	2018	20.4	12.1	13.1	35.9	4.1	14.4	100.0		
	2019	20.0	11.1	12.3	36.8	5.4	14.3	100.0		
	2020	19.9	10.2	12.4	36.3	5.8	15.4	100.0		
Share (including 'Uncategorized') (%)	2001	32.5	5.6	10.6	15.1	7.8	11.1	82.6	17.4	100.0
	2002	33.8	4.8	9.6	20.2	7.9	12.4	88.7	11.3	100.0
	2003	31.9	6.8	11.1	23.3	12.0	10.7	95.8	4.2	100.0
	2004	25.9	6.7	10.2	26.2	9.2	13.2	91.4	8.6	100.0
	2005	25.7	5.8	11.7	25.5	6.9	13.3	89.0	11.0	100.0
	2006	27.2	6.7	13.1	28.1	6.1	12.9	94.0	6.0	100.0
	2007	27.3	7.4	13.0	28.5	5.0	13.4	94.8	5.2	100.0
	2008	27.0	8.2	12.9	32.5	4.7	14.4	99.7	0.3	100.0
	2009	25.2	8.1	15.3	35.1	4.4	11.4	99.6	0.4	100.0
	2010	24.8	8.1	12.8	36.7	6.1	9.5	98.1	1.9	100.0
	2011	21.5	8.7	12.5	35.8	8.3	9.8	96.5	3.5	100.0
	2012	23.8	7.7	11.6	32.1	7.7	13.7	96.7	3.3	100.0
	2013	20.8	7.1	10.4	29.5	10.5	14.7	93.0	7.1	100.0
	2014	21.2	8.9	10.7	28.7	5.1	16.6	91.2	8.9	100.0
	2015	-	-	-	-	-	-	-	-	-
	2016	17.2	9.2	11.3	28.0	3.7	11.4	80.8	19.2	100.0
	2017	15.6	8.7	11.6	29.9	3.9	11.4	81.1	18.8	100.0
	2018	16.4	9.7	10.6	28.9	3.3	11.6	80.6	19.4	100.0
	2019	15.7	8.8	9.7	28.9	4.3	11.2	78.6	21.4	100.0
	2020	14.9	7.6	9.3	27.2	4.3	11.5	74.9	25.1	100.0

Note :

Data in 2015 is not disclosed

Source :

2001-2012 PhRMA, Pharmaceutical Industry Profile

since 2013 PhRMA, Annual Membership Survey

<https://phrma.org/Report/2020-PhRMA-Annual-Membership-Survey>

Success Rate of Developing New Drugs (Japan) (1/2)

A-7-9

(1) Number of compounds by stage and success rate in every 5 years

Small Molecules

Fiscal Year	Number of compounds by stage (5 years)				Probability to Move from Previous Phase		
	Synthesized Compounds	Pre-Clinical Studies Started	Clinical Studies Started in Japan	Approval Granted	Pre-Clinical Studies Started	Clinical Studies Started in Japan	Approval Granted
2000 ~ 2004	463,961	215	127	36	1 : 2,158	1 : 3,653	1 : 12,888
2001 ~ 2005	499,915	197	97	32	1 : 2,538	1 : 5,154	1 : 15,622
2002 ~ 2006	535,049	203	73	27	1 : 2,636	1 : 7,329	1 : 19,817
2003 ~ 2007	563,589	202	83	26	1 : 2,790	1 : 6,790	1 : 21,677
2004 ~ 2008	611,576	199	81	24	1 : 3,073	1 : 7,550	1 : 25,482
2005 ~ 2009	652,336	203	75	21	1 : 3,213	1 : 8,698	1 : 31,064
2006 ~ 2010	673,002	216	83	22	1 : 3,116	1 : 8,108	1 : 30,591
2007 ~ 2011	704,333	219	85	26	1 : 3,216	1 : 8,286	1 : 27,090
2008 ~ 2012	742,465	198	71	25	1 : 3,750	1 : 10,457	1 : 29,699
2009 ~ 2013	728,512	201	68	25	1 : 3,624	1 : 10,713	1 : 29,140
2010 ~ 2014	712,040	190	74	29	1 : 3,748	1 : 9,622	1 : 24,553
2011 ~ 2015	703,397	165	70	28	1 : 4,263	1 : 10,049	1 : 25,121
2012 ~ 2016	674,850	151	62	26	1 : 4,469	1 : 10,885	1 : 25,956
2013 ~ 2017	624,482	146	65	24	1 : 4,277	1 : 9,607	1 : 26,020
2014 ~ 2018	582,573	150	62	26	1 : 3,884	1 : 9,396	1 : 22,407
2015 ~ 2019	545,967	146	53	24	1 : 3,740	1 : 10,301	1 : 22,749
2016 ~ 2020	505,141	173	52	23	1 : 2,920	1 : 9,714	1 : 21,963

Note :

1. Chemical libraries, such as synthesized compounds through combinatorial chemistry, are not included in "Synthesized Compounds"
2. Only the compounds of in-house (excl. in-licensing). Additional dosage forms and indications are excluded.
3. Probability to move from previous phase is the ratio of the number of compounds at each stage to the total number of compounds.

Source : JPMA Survey (Data obtained from domestic companies of the R&D Committee members)

Success Rate of Developing New Drugs (Japan) (2/2)

A-7-9

(2) Number of compounds by stage (Trends by Fiscal Year)

Small Molecules

Fiscal Year	Number of surveyed companies	Synthesized Compounds	Pre-Clinical Studies Started	Clinical Studies Started in Japan	Approval Granted
2000	18	86,883	54	42	8
2001	18	85,300	34	41	9
2002	18	89,338	48	13	7
2003	18	97,824	42	15	7
2004	17	104,616	37	16	5
2005	20	122,837	36	12	4
2006	19	120,434	40	17	4
2007	18	117,878	47	23	6
2008	20	145,811	39	13	5
2009	20	145,376	41	10	2
2010	20	143,503	49	20	5
2011	22	151,765	43	19	8
2012	22	156,010	26	9	5
2013	21	131,858	42	10	5
2014	21	128,904	30	16	6
2015	25	134,860	24	16	4
2016	22	123,218	29	11	6
2017	21	105,642	21	12	3
2018	22	89,949	46	7	7
2019	20	92,298	26	7	4
2020	21	94,034	51	15	3
合計		2,468,338	805	344	113

New Modalities

Fiscal Year	Antibody Drugs				Other Drugs*			
	Number of surveyed companies	Pre-Clinical Studies Started	Clinical Studies Started in Japan	Approval Granted	Number of surveyed companies	Pre-Clinical Studies Started	Clinical Studies Started in Japan	Approval Granted
2012	22	5	1	0	22	2	0	0
2013	21	8	1	0	21	2	2	0
2014	21	5	2	1	21	1	0	1
2015	25	11	2	0	25	5	1	0
2016	22	10	3	0	22	6	0	0
2017	21	14	4	0	22	16	1	0
2018	22	9	5	3	22	21	2	0
2019	20	12	6	4	20	8	2	2
2020	21	15	1	0	21	14	7	2
合計		89	25	8		75	15	5

Note :

1. Chemical libraries, such as synthesized compounds through combinatorial chemistry, are not included in "Synthesized Compounds"
2. Only the compounds of in-house (excl. in-licensing). Additional dosage forms and indications are excluded.
3. Other Drugs* are including nucleic acid medicine, peptide, cell therapy, gene therapy, etc.
4. The survey of 'New modalities' began in FY2012.

Source : JPMA Survey (Data obtained from domestic companies of the R&D Committee members)

A. Pharmaceutical Industry Outlook

A-8. Patents

A-8-1. Number of Patents for Drugs in Japan68

A-8-2. Number of Published Patent Applications for Drugs by Company in Japan69

A-8-3. Number of Published Patent Applications for Biopharmaceuticals in Japan
by Applicant's Nationality71

A-8-4. Published PCT Applications by Pharmaceutical Company72

A-8-5. Number of Published PCT Applications for Biopharmaceuticals
by Applicant's Nationality74

Number of Patents for Drugs in Japan

A-8-1

Year	No. of Patents for Drugs (A)			Total No. of Patents (B)	Ratio to Total No. of Patents (A) / (B)
		Domestic Applicants	Foreign Applicants		
1980	646	376	270	51,880	1.25%
1985	1,144	718	426	60,080	1.90%
1990	1,055	623	432	63,320	1.67%
1995	1,881	819	1,062	123,360	1.52%
1997	1,581	772	809	147,686	1.07%
1998	1,904	952	952	141,448	1.35%
1999	851	423	428	150,058	0.60%
2000	1,492	772	720	125,834	1.19%
2001	1,457	718	739	121,716	1.20%
2002	926	401	525	120,007	0.77%
2003	1,087	561	526	122,507	0.89%
2004	1,230	617	613	124,186	0.99%
2005	1,169	615	554	122,941	0.95%
2006	1,533	743	790	141,397	1.08%
2007	1,911	964	947	164,954	1.16%
2008	2,483	1,060	1,423	176,949	1.40%
2009	3,059	1,284	1,775	193,348	1.58%
2010	4,259	1,634	2,625	222,692	1.91%
2011	4,938	1,845	3,093	238,322	2.07%
2012	6,072	2,214	3,858	274,786	2.21%
2013	6,292	2,110	4,182	277,077	2.27%
2014	6,156	1,838	4,318	227,141	2.71%
2015	6,182	1,725	4,457	189,357	3.26%
2016	6,188	1,769	4,419	203,087	3.05%
2017	5,831	1,611	4,220	199,577	2.92%
2018	5,461	1,472	3,989	194,525	2.81%
2019	4,983	1,302	3,681	179,910	2.77%
2020	5,114	1,479	3,635	179,381	2.85%

Note :

1. The total number of patents :

Until 1995, the total number of examined patent publications

From 1997, the number of granted patent publications

2. Counted by the International Patent Classification A61P

(Specific Therapeutic Activity of Chemical Compounds or Medicinal Preparations).

Source : Until 1999, Japan Patent Information Organization.

From 2000 to 2012, Patent On-Line Information System (PATOLIS). From 2013, JP-Net

Number of Published Patent Applications for Drugs by Company in Japan (1/2) A-8-2

Japanese Companies

Company* / Year		2013	2014	2015	2016	2017	2018	2019
Alfresa Pharma		0	0	0	0	0	1	0
Asahi Kasei Pharma		2	2	5	9	11	3	18
ASKA Pharma.		3	2	1	3	0	0	0
Astellas		8	8	6	6	5	3	3
Biken		1	2	0	0	1	2	0
Chugai		13	7	10	13	24	20	20
Daiichi Sankyo		47	24	21	25	29	13	28
EA Pharma		0	0	0	1	1	3	3
Eisai		1	1	1	4	6	14	10
FUJIFILM Toyama Chemical		3	2	4	4	1	2	0
Fuso Pharma.		0	1	2	0	0	1	2
Hisamitsu Pharma.		2	2	3	6	2	0	4
Kaken Pharma.		0	0	0	0	0	1	3
Kissei Pharma.		2	5	5	5	1	2	3
KM Biologics		5	0	0	3	1	0	1
Kowa		38	30	34	40	23	25	36
Kracie Pharma		5	4	2	2	1	3	2
Kyorin Pharma.		5	9	9	5	3	11	4
Kyoto Pharma.		0	0	0	0	0	1	1
Kyowa Kirin		11	11	5	7	9	6	9
Maruho		1	0	2	2	1	0	0
Maruishi Pharma.		0	0	0	0	0	1	0
Meiji Seika Pharma		4	5	1	3	2	6	3
Minophagen Pharma.		2	0	0	0	0	0	0
Mitsubishi Tanabe		17	11	4	3	13	5	5
Mochida Pharma.		2	5	5	4	6	7	4
Nihon Pharma.		0	0	2	0	0	0	0
Nippon Chemiphar		7	4	4	7	6	10	5
Nippon Kayaku		0	11	5	7	9	13	13
Nippon Shinyaku		1	7	3	2	6	4	5
Nippon Zoki Pharma.		4	7	3	5	2	6	5
Ono Pharma.		8	7	7	7	8	14	6
Otsuka Pharma.		9	14	10	5	9	3	7
Santen Pharma.		12	14	7	15	20	11	13
Sanwa Kagaku		3	5	5	6	1	3	4
Seikagaku		0	1	2	2	5	1	7
Senju Pharma.		3	4	3	5	3	7	13
Shionogi		11	13	9	9	10	7	13
Sumitomo Dainippon		25	20	15	23	10	15	16
Taiho Pharma.		5	8	9	2	4	4	0
Taisho Pharma.		33	43	30	35	26	28	21
Takeda	Takeda	11	9	9	8	7	25	43
	Shire	3	2	7	11	11		
Teijin Pharma		1	0	5	3	1	2	1
Teikoku Seiyaku		1	2	2	3	0	0	2
Toa Eiyo		2	1	5	0	3	4	3
Toray		15	7	5	6	10	2	1
Tsumura		1	0	0	0	0	2	1
Wakamoto Pharma.		1	1	1	1	0	1	1
Yakult		5	6	3	3	0	4	1
Zeria Pharma.		3	0	0	1	1	1	3

* Refer to the List of abbreviated Names of JPMA member Companies.

Note :

1. Counted by the International Patent Classification A61P
(Specific Therapeutic Activity of Chemical Compounds or Medicinal Preparations).
2. The number of laid-open disclosure public patent bulletin for patent application filed to the Japan Patent Office
3. Companies that had published patent applications among JPMA members

Source : JP-Net

(This table will not be updated after 2020.)

Number of Published Patent Applications for Drugs by Company in Japan (2/2) A-8-2

Foreign Companies

Company / Year		2013	2014	2015	2016	2017	2018	2019
AbbVie		2	31	35	43	33	29	25
AstraZeneca		8	15	10	4	5	6	9
Bayer		16	15	16	11	16	13	7
Biogen		23	20	18	11	22	11	13
Boehringer Ingelheim		24	17	19	16	15	18	10
Bristol-Myers Squibb		11	9	11	14	10	10	18
Celgene		16	17	16	18	24	22	20
Eli Lilly		4	4	6	3	10	6	9
GlaxoSmithKline		17	16	19	21	17	16	17
Janssen		5	8	6	8	6	4	11
Merck (Germany)		4	8	10	5	9	11	0
MSD		43	25	17	15	13	12	15
Mylan		19	2	5	2	2	1	1
Novartis		108	82	74	82	65	66	45
Novo Nordisk		10	12	11	13	6	6	3
Pfizer		26	31	39	49	34	30	33
Sanofi		21	26	31	37	41	34	35
Sun Pharma	Sun Pharma	4	0	1	5	1	1	0
	Pola Pharma	15	26	42	10	25	10	12
UCB		4	4	7	5	6	5	4

Note :

1. Counted by the International Patent Classification A61P
(Specific Therapeutic Activity of Chemical Compounds or Medicinal Preparations).
2. The number of laid-open disclosure public patent bulletin for patent application filed to the Japan Patent Office
3. Companies that had published patent applications among JPMA members
(Including patent publications by each global headquarter)

Source : JP-Net

(This table will not be updated after 2020.)

Number of Published Patent Applications for Biopharmaceuticals in Japan by Applicant's Nationality

A-8-3

Year	Japan	USA	Europe	China	Others	Total
2000	103	64	22	0	11	200
2001	231	73	32	0	18	354
2002	310	108	43	0	29	490
2003	362	98	34	2	13	509
2004	400	139	23	0	27	589
2005	289	102	14	0	26	431
2006	276	172	26	0	21	495
2007	269	196	37	1	22	525
2008	271	228	38	0	15	552
2009	216	348	56	0	39	659
2010	156	313	46	4	42	561
2011	176	320	43	5	54	598
2012	146	323	47	0	43	559
2013	178	364	45	2	65	654
2014	168	433	37	3	90	731
2015	176	476	34	3	94	783
2016	180	590	32	9	98	909
2017	165	564	25	1	109	864
2018	185	563	29	4	95	876
2019	175	591	37	7	101	911
2020	178	719	74	18	170	1,159

Note :

1. Europe includes 5 countries, namely, the UK, Germany, France, Switzerland and the Netherlands.
Adjusted and counted by Convention Priority Right countries.
2. Counted by the International Patent Classification C12N15/00 (Undifferentiated human, animal or plant cells, Tissues; Cultivation or maintenance thereof; Culture media therefor), and A61P (Specific Therapeutic Activity of Chemical Compounds or Medicinal Preparations).

Source : JP-Net

Published PCT Applications by Pharmaceutical Company (1/2)

A-8-4

Japanese Companies

Company / Year		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Asahi Kasei Pharma		7	4	2	2	0	0	0	1	1	3
ASKA Pharma.		2	2	3	0	6	1	1	3	0	2
AYUMI Pharma.		0	0	0	0	0	0	0	0	1	0
Astellas		35	23	22	15	20	14	16	10	9	7
Biken		2	0	1	1	2	1	2	2	3	2
Chugai		16	6	8	14	13	17	16	14	17	15
Daiichi Sankyo		48	42	30	30	26	30	34	17	39	37
EA Pharma		0	0	0	0	0	0	2	4	1	2
Eisai		18	13	11	10	15	18	16	16	22	15
FUJIFILM Toyama Chemical		2	4	2	7	5	4	3	9	13	0
Fuso Pharma.		0	1	2	1	2	2	0	1	0	4
Hisamitsu Pharma.		7	2	7	4	5	8	7	8	8	9
Kaken Pharma.		1	1	3	2	3	0	0	1	4	1
Kissei Pharma.		7	7	8	3	9	5	5	1	4	4
KM Biologics		1	3	2	4	4	5	2	4	2	3
Kowa		15	15	17	11	18	3	13	6	7	15
Kracie Pharma		1	0	1	1	0	2	0	1	1	0
Kyorin Pharma.		6	5	7	10	6	4	9	1	1	2
Kyoto Pharma.		0	0	1	0	1	2	0	2	3	4
Kyowa Kirin		31	31	14	13	22	13	12	22	19	10
Maruho		0	0	2	3	2	1	5	1	2	5
Maruishi Pharma.		0	0	1	1	1	4	0	0	2	0
Meiji Seika Pharma		0	0	10	6	6	8	2	6	6	3
Mitsubishi Tanabe		11	15	9	7	9	11	5	8	6	8
Mochida Pharma.		11	6	10	6	6	4	8	10	4	5
Nihon Pharma.		0	4	1	0	1	1	0	0	2	3
Nippon Chemiphar		5	5	10	5	4	5	4	3	6	7
Nippon Kayaku		2	2	3	2	1	5	6	11	2	2
Nippon Shinyaku		3	2	5	4	1	2	3	4	1	8
Nippon Zoki Pharma.		3	2	3	3	5	2	1	7	5	5
Ono Pharma.		7	4	6	9	8	10	10	10	7	13
Otsuka Pharma.		8	8	9	12	5	7	2	9	4	10
Santen Pharma.		16	9	4	12	6	7	19	15	14	16
Sanwa Kagaku		1	5	3	1	7	4	3	0	2	0
Seikagaku		0	1	1	1	2	4	4	1	3	3
Senju Pharma.		2	6	2	3	10	13	6	7	0	8
Shionogi		30	21	22	24	21	12	23	23	13	13
Sumitomo Dainippon		15	33	28	11	15	10	16	21	19	23
Taiho Pharma.		14	9	8	17	12	15	10	16	7	13
Taisho Pharma.		10	10	21	20	13	12	10	10	3	3
Takeda	Takeda	55	47	33	37	23	39	32	27	38	32
	Shire	4	11	4	2	10	4	7	4		
Teijin Pharma		5	2	3	8	6	3	5	4	4	1
Teikoku Seiyaku		0	10	2	6	2	5	0	0	4	2
Toa Eiyo		0	2	0	1	0	8	0	0	1	1
Toray		10	17	7	23	5	11	11	19	12	10
Wakamoto Pharma.		0	1	1	0	0	1	1	1	1	0
Yakult		3	7	4	5	1	7	5	3	4	4
Zeria Pharma.		1	2	0	0	2	2	1	1	3	2

* Refer to the List of abbreviated Names of JPMA member Companies.

Note :

1. Counted by the International Patent Classification A61P

(Specific Therapeutic Activity of Chemical Compounds or Medicinal Preparations)

2. Companies that had published PCT applications among JPMA members (including published PCT applications of group companies) are listed.

Source : JP-Net

(This table will not be updated after 2020.)

Published PCT Applications by Pharmaceutical Company (2/2)

A-8-4

Foreign Companies

Company / Year		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
AbbVie		0	1	6	32	42	28	30	40	19	29
AstraZeneca		85	35	23	16	9	11	11	31	15	20
Bayer		60	61	62	53	80	77	85	80	100	98
Biogen		3	1	2	4	11	9	11	4	10	6
Boehringer Ingelheim		100	63	68	72	68	38	38	32	34	26
Bristol-Myers Squibb		45	40	47	52	92	77	80	44	56	79
Celgene		4	6	7	3	12	10	9	13	12	7
Eli Lilly		24	17	19	19	21	23	44	34	45	37
GlaxoSmithKline		91	60	47	31	26	33	58	54	51	57
Janssen		50	42	33	18	43	17	39	34	46	40
Merck (Germany)		35	24	33	28	36	18	23	18	36	21
Merck (USA)		39	26	23	22	78	60	85	56	17	21
Mylan		8	6	4	3	6	4	7	2	5	4
Novartis		83	102	107	110	90	73	65	55	83	72
Novo Nordisk		8	9	12	10	9	6	4	5	7	5
Pfizer		84	34	36	22	27	35	37	26	20	27
Roche		125	130	130	134	144	111	113	106	118	89
Sanofi		94	103	70	73	48	37	19	10	17	30
Sun Pharma	Sun Pharma	1	2	1	3	1	3	9	3	4	3
	Pola Pharma	0	2	0	1	6	5	2	4	1	1
UCB		11	10	5	7	5	24	9	10	8	13

Note :

1. Counted by the International Patent Classification A61P
(Specific Therapeutic Activity of Chemical Compounds or Medicinal Preparations).
2. Companies that had published PCT applications among JPMA members (including published PCT applications of group companies) are listed.

Source : JP-Net

(This table will not be updated after 2020.)

Number of Published Patent Applications for Biopharmaceuticals in Japan by Applicant's Nationality

A-8-5

Year	Japan	USA	Europe	China	Others	Total
2000	46	1,250	300	4	146	1,746
2001	146	1,429	346	211	251	2,383
2002	187	1,224	268	78	213	1,970
2003	198	936	267	12	239	1,652
2004	196	245	88	16	83	628
2005	225	184	47	20	65	541
2006	197	143	28	22	44	434
2007	187	155	26	17	42	427
2008	136	184	19	37	46	422
2009	121	194	23	14	42	394
2010	143	238	13	15	61	470
2011	127	247	13	46	83	516
2012	125	217	16	53	102	513
2013	121	216	9	40	67	453
2014	135	147	10	42	72	406
2015	132	116	11	60	62	381
2016	115	172	11	81	62	441
2017	133	215	8	110	49	515
2018	142	208	4	160	51	565
2019	152	271	10	213	65	711
2020	151	392	12	262	118	935

Note :

1. Europe includes 5 countries, namely, the UK, Germany, France, Switzerland and the Netherlands.
Adjusted and counted by Convention Priority Right countries.
2. Counted by the International Patent Classification C12N15/00 (Undifferentiated human, animal or plant cells, Tissues; Cultivation or maintenance thereof; Culture media therefor), and A61P (Specific Therapeutic Activity of Chemical Compounds or Medicinal Preparations).

Source : JP-Net

A. Pharmaceutical Industry Outlook

A-9. Pharmaceutical Affairs Government

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Trends in Notification of Clinical Trials (Japan)

A-9-1

Drugs

(Unit: No. of Notification)

Year	Initial Notification		Notification of n th time	Notification of Change	Notification of Completion	Notification of Suspension	Notification of Development Suspension
	NMEs	New Administration Route New Ethical Combination					
1990	138	-	995	1,841	166	37	-
1995	104	-	678	2,153	130	63	-
1998	54	11	341	2,960	529	76	67
1999	52	12	327	2,974	508	57	89
2000	63	17	383	2,701	464	41	101
2001	43	19	362	2,117	425	29	59
2002	60	13	365	2,110	401	25	58
Fiscal Year	Initial Notification		Notification of n th time	Notification of Change	Notification of Completion	Notification of Suspension	Notification of Development Suspension
2002	65		357	2,114	416	28	68
2003	64		318	2,129	377	32	38
2004	76		330	2,575	348	38	58
2005	112		422	2,697	365	31	41
2006	112		387	3,200	429	32	40
2007	129		379	3,564	402	28	57
2008	128		396	3,339	477	30	80
2009	129		431	3,363	461	45	96
2010	159		473	3,655	465	29	74
2011	165		524	3,997	497	46	80
2012	132		424	4,568	495	57	70
2013	127		475	4,356	446	61	78
2014	151		450	4,321	498	67	117
2015	127		530	4,566	507	70	102
2016	134		511	4,998	469	93	111
2017	136		557	5,200	456	65	100
2018	175		589	5,485	477	98	119
2019	162		512	6,063	465	86	110
2020	186		603	6,289	440	82	103

Regenerative Medical Products

Fiscal Year	Initial Notification	Notification of n th time	Notification of Change	Notification of Completion	Notification of Suspension	Notification of Development Suspension
2014	3	1	2	0	0	0
2015	10	3	19	0	0	0
2016	16	5	52	1	0	0
2017	13	14	93	2	3	1
2018	18	17	151	7	1	1
2019	13	16	206	15	4	0
2020	19	22	215	11	4	1

Note :

1. "Notification of nth time" represents on and after 2nd time of CTPN.
2. About "Notification of Completion", it was formerly allowed submitting each Clinical Trial Plan and/or all Clinical Trial Plans. It is currently only allowed submitting each Clinical Trial Plan respectively, since April 1997.
3. "Notification of Development Suspension" is required its submission since April 1997.

Source : Pharmaceuticals and Medical Devices Agency
<https://www.pmda.go.jp/review-services/trials/0014.html>

Development Times for New Molecular Entities (Japan)

A-9-2

Year (NDA approved)	All Products		Priority Review Products		Standard Review Products	
	Number of Approvals	Development Time (Months)	Number of Approvals	Development Time (Months)	Number of Approvals	Development Time (Months)
2000	33	115.8	4	130.4	29	113.7
2001	17	93.4	6	64.2	11	104.6
2002	22	94.4	7	74.6	15	111.8
2003	14	87.2	2	65.7	12	99.7
2004	11	115.7	2	71.1	9	117.9
2005	16	99.7	3	74.0	13	108.7
2006	19	94.8	6	73.1	13	136.7
2007	28	92.2	10	68.0	18	121.5
2008	27	104.3	12	67.9	15	163.8
2009	24	105.8	7	48.5	17	115.9
2010	28	74.2	6	45.5	22	92.5
2011	34	73.5	7	63.5	27	86.2
2012	39	65.8	11	31.9	28	73.1
2013	31	66.9	13	40.2	18	94.8
2014	55	66.0	27	46.5	28	71.6
2015	35	63.0	14	62.9	21	65.6
2016	42	53.9	20	49.0	22	57.5

Note :

1. Development time is the median of the periods from the date of the initial protocol application to the date of the marketing approval.
2. Standard review products include accelerated approval products.

Source : JPMA Survey

(This table will not be updated after 2016 due to a review of the questionnaire items.)

Approval Times for New Drugs (Japan)

A-9-3

Year (NDA filed)	All Products		Priority Review Products		Standard Review Products	
	Number of Applications	Approval Time (Months)	Number of Applications	Approval Time (Months)	Number of Applications	Approval Time (Months)
2000	49	15.2	14	12.4	35	16.6
2001	62	15.4	9	6.8	53	17.6
2002	54	20.6	8	17.8	46	21.3
2003	62	25.2	15	25.1	47	26.0
2004	72	19.1	14	9.7	58	20.1
2005	55	19.3	17	15.5	38	21.7
2006	82	20.1	23	15.7	59	21.7
2007	79	18.8	27	13.1	52	21.6
2008	84	17.9	11	11.7	73	18.9
2009	69	12.6	11	11.9	56	12.9
2010	107	10.0	10	9.4	97	10.1
2011	103	9.5	20	9.2	83	9.6
2012	145	10.0	22	8.7	123	10.6
2013	124	10.0	40	8.8	84	10.9
2014	116	9.9	33	8.1	83	10.8
2015	105	10.2	26	8.4	79	10.9
2016	110	9.8	36	8.4	74	10.8
2017	98	10.1	32	8.0	66	10.9
2018	130	9.8	36	7.9	94	10.4
2019	116	10.6	32	8.0	84	11.0
2020	130	9.9	43	8.8	85	10.8
2021	29	6.6	15	8.0	6	6.5

Note :

1. Approval time is the median of the periods from the date of submission of application for marketing approval to the date of marketing approval.
2. About products filed for NDA since 2016, they have some pending items hence it does not include counting in this table.
Further information should be required to evaluate this table totally.
3. Researched items are the products in which approved from 2000 to 2021.
(Product items for Subcommittee of Pharmaceutical Affairs and Food Sanitation Council, plus its reported items)
4. Standard review products include accelerated approval products.
5. Products related to "Special Approval for Emergency" are included only in the list of all products, not in the list of products under standard review or priority review.

Source : Pharmaceuticals and Medical Devices Agency, List of Approved Products: New Drugs, etc.
<https://www.pmda.go.jp/review-services/drug-reviews/review-information/p-drugs/0010.html>

Number of New Molecular Entities Approved (Japan)

A-9-4

Year	No. of New Drugs (New Molecular Entities)		
		No. of Biopharmaceuticals	Share (%)
2000	39	2	5.1
2001	25	7	28.0
2002	24	3	12.5
2003	16	2	12.5
2004	16	2	12.5
2005	21	4	19.0
2006	23	6	26.1
2007	35	10	28.6
2008	34	8	23.5
2009	25	8	32.0
2010	33	8	24.2
2011	38	12	31.6
2012	45	10	22.2
2013	32	10	31.3
2014	60	16	26.7
2015	38	9	23.7
2016	52	14	26.9
2017	24	8	33.3
2018	37	14	37.8
2019	39	10	25.6
2020	38	9	23.7
2021	52	24	46.2

Note :

In vitro diagnostics, insecticides, and OTC products are excluded.

Source :

Yakumu Kohosha, Yakumu Koho

Pharmaceuticals and Medical Devices Agency, List of Approved Products: New Drugs

<https://www.pmda.go.jp/review-services/drug-reviews/review-information/p-drugs/0010.html>

Number of New Molecular Entities Approved (company specific) (Japan)

A-9-5

Accumulation from 2000 to 2021

Company	Total	Approval in 2021
Pfizer	45	3
MSD	39	2
Sanofi	37	1
GlaxoSmithKline	36	1
Novartis	35	0
Takeda	30	3
Chugai	26	3
Janssen	26	1
Bayer	25	3
AstraZeneca	22	3
Astellas	21	1
Daiichi Sankyo	20	0
Ono	18	1
Eli Lilly	16	2
Kyowa Kirin	15	0
Bristol-Myers Squibb	15	0
Novo Nordisk	14	1
Mitsubishi Tanabe	14	1
Shionogi	13	0
Sumitomo Dainippon	13	1
Boehringer Ingelheim	12	2
AbbVie	11	0
Otsuka	11	0
Kyorin Pharma	10	1
Eisai	10	2
FUJIFILM Toyama Chemical	9	2
KM Biologics	7	0
Meiji Seika Pharma	7	0
Nippon Shinyaku	7	0
Taiho	6	0
Teijin Pharma	6	1
Kowa	5	0
Biogen	5	0
Merck Biopharma	5	0
Kissei	5	1
Sanwa Kagaku	5	1
Santen	4	0
Senju	4	0
Torii Pharma.	4	0
Nippon Kayaku	4	0
Biken	4	0
Mochida Pharma.	4	0
Taisho Pharma.	4	0
Kaken Pharma.	4	0
Amgen	4	1

Note :

1. JPMA Member Companies with 4 approved NMEs or more since 2000 are listed (45 companies).
2. In case of multiple applicants for one NME, every applicant can count it as its own approved NME.

Source : Yakumu Kohosha, Yakumu Koho,

Pharmaceuticals and Medical Devices Agency, List of Approved Products: New Drugs

<https://www.pmda.go.jp/review-services/drug-reviews/review-information/p-drugs/0010.html>

Number of Pharmaceutical Approvals (Japan)

A-9-6

(Unit: No. of drugs)

Fiscal Year	Ethical Drugs				OTC Drugs			
	Manufacturing Approval	Import Approval	Marketing	Total	Manufacturing Approval	Import Approval	Marketing	Total
1975	735	186	—	921	1,509	47	—	1,556
1980	2,074	285	—	2,359	1,993	122	—	2,115
1985	6,797	351	—	7,148	1,796	48	—	1,844
1990	1,302	381	—	1,683	1,643	76	—	1,719
1995	788	255	—	1,043	789	51	—	840
2000	656	253	—	909	807	18	—	825
2001	854	524	—	1,378	975	45	—	1,020
2002	692	266	—	958	859	12	—	871
2003	552	160	—	712	951	26	—	977
2004	667	149	—	816	561	16	—	577
2005*	826	249	192	1,267	1,171	33	0	1,204
2006	400	140	893	1,433	330	3	273	606
2007	88	41	1,765	1,894	92	2	1,050	1,144
2008	4	3	2,458	2,465	27	16	829	872
2009	4	1	2,331	2,336	12	0	837	849
2010	8	1	937	946	6	0	831	837
2011	0	0	1,250	1,250	5	2	740	747
2012	0	0	1,481	1,481	0	0	608	608
2013	1	0	1,999	2,000	0	0	628	628
2014	0	0	1,411	1,411	0	0	672	672
2015	0	0	1,069	1,069	0	0	644	644
2016	0	0	821	821	0	0	446	446
2017	0	0	1,066	1,066	0	0	427	427
2018	0	0	971	971	0	0	346	346
2019	0	0	776	776	0	0	440	440
2020	0	0	1,062	1,062	0	0	463	463

Note :

In the revised Japan's Pharmaceutical Affairs Law of April 1, 2005, 'Manufacturing Approval' and 'Import Approval' were replaced by 'Marketing Approval'.

Source : Until 2004, The Yakuji Nippo, Recent New Drugs. From 2005, Jiho, Yakuji Handbook

Number of Pharmaceuticals Included in the NHI Price List (Japan)

A-9-7

(Unit: No. of drugs)

Fiscal Year	Internal	Injections	External	Dental Drugs	Total
1990	8,672	2,957	1,619	104	13,352
1995	8,670	3,531	1,997	106	14,304
1996	7,547	3,307	1,910	105	12,869
1997	6,796	3,232	1,846	100	11,974
1998	6,518	3,228	1,851	95	11,692
1999	6,875	3,368	1,943	97	12,283
2000	6,209	3,166	1,870	42	11,287
2001	-	-	-	-	-
2002	6,036	3,222	1,894	39	11,191
2003	6,308	3,418	1,947	43	11,716
2004	6,646	3,316	1,996	35	11,993
2005	6,899	3,500	2,032	37	12,468
2006	7,299	3,509	2,467	36	13,311
2007	7,938	3,975	2,641	37	14,591
2008	7,866	3,759	2,694	40	14,359
2009	9,148	4,610	3,164	42	16,964
2010	8,676	4,010	2,733	36	15,455
2011	9,177	4,184	2,844	36	16,241
2012	8,629	3,820	2,426	27	14,902
2013	9,655	4,012	2,509	27	16,203
2014	9,092	3,721	2,465	25	15,303
2015	9,934	3,951	2,540	26	16,451
2016	9,617	3,871	2,411	26	15,925
2017	10,067	3,962	2,452	28	16,509
2018	10,253	3,827	2,324	28	16,432
2019	10,741	3,977	2,403	28	17,149
2020	8,517	3,444	2,052	28	14,041
2021	8,549	3,534	2,118	27	14,228

Note :

1. This table has been revised after reviewing the source materials.
2. Number of pharmaceuticals as of April 1 of each fiscal year, or as close to that date as possible.

Source : Ministry of Health, Labour and Welfare, Notice by Health Insurance Bureau

B. Statistics on Health

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Life Expectancy (Japan)

B-1-1

(Unit: Years)

Year	Male				Female			
	Age 0	Age 20	Age 40	Age 65	Age 0	Age 20	Age 40	Age 65
1950	58.00	45.30	29.40	11.50	61.50	48.70	32.70	13.90
1955	63.60	48.47	30.85	11.82	67.75	52.25	34.34	14.13
1960	65.32	49.08	31.02	11.62	70.19	53.39	34.90	14.10
1965	67.74	50.18	31.73	11.88	72.92	54.85	35.91	14.56
1970	69.31	51.26	32.68	12.50	74.66	56.11	37.01	15.34
1975	71.73	53.27	34.41	13.72	76.89	58.04	38.76	16.56
1980	73.35	54.56	35.52	14.56	78.76	59.66	40.23	17.68
1985	74.78	55.74	36.63	15.52	80.48	61.20	41.72	18.94
1990	75.92	56.77	37.58	16.22	81.90	62.54	43.00	20.03
1995	76.38	57.16	37.96	16.48	82.85	63.46	43.91	20.94
2000	77.72	58.33	39.13	17.54	84.60	65.08	45.52	22.42
2001	78.07	58.64	39.43	17.78	84.93	65.39	45.82	22.68
2002	78.32	58.87	39.64	17.96	85.23	65.69	46.12	22.96
2003	78.36	58.89	39.67	18.02	85.33	65.79	46.22	23.04
2004	78.64	59.15	39.93	18.21	85.59	66.01	46.44	23.28
2005	78.56	59.08	39.86	18.13	85.52	65.93	46.38	23.19
2006	79.00	59.49	40.25	18.45	85.81	66.22	46.66	23.44
2007	79.19	59.66	40.40	18.56	85.99	66.39	46.82	23.59
2008	79.29	59.75	40.49	18.60	86.05	66.45	46.89	23.64
2009	79.59	60.04	40.78	18.88	86.44	66.81	47.25	23.97
2010	79.55	59.99	40.73	18.74	86.30	66.67	47.08	23.80
2011	79.44	59.93	40.69	18.69	85.90	66.35	46.84	23.66
2012	79.94	60.36	41.05	18.89	86.41	66.78	47.17	23.82
2013	80.21	60.61	41.29	19.08	86.61	66.94	47.32	23.97
2014	80.50	60.90	41.57	19.29	86.83	67.16	47.55	24.18
2015	80.75	61.13	41.77	19.41	86.99	67.31	47.67	24.24
2016	80.98	61.34	41.96	19.55	87.14	67.46	47.82	24.38
2017	81.09	61.45	42.05	19.57	87.26	67.57	47.90	24.43
2018	81.25	61.61	42.20	19.70	87.32	67.63	47.97	24.50
2019	81.41	61.77	42.35	19.83	87.45	67.77	48.11	24.63
2020	81.64	61.97	42.57	20.05	87.74	68.04	48.40	24.91

Note: Numerical data may differ from those of past DATA BOOK due to revision in accordance with changes in data in the quoted sources.

Source: Ministry of Health, Labour and Welfare, Abridged Life Table
<https://www.mhlw.go.jp/toukei/saikin/hw/seimei/list54-57-02.html>

Life Expectancy (Worldwide)

B-1-2

(Unit: Years)

Region	Country	1988			2020		
		Male	Female	Period	Male	Female	Period
Asia	Japan	75.54	81.30	1988	81.64	87.74	2020
	Israel	73.53	76.99	1985	80.55	84.37	2014-2018
	India	55.60	55.20	1980-1985	68.2	70.7	2014- 2018
	Indonesia	54.60	57.40	1985-1990	71.3	75.1	2019
	Korea	62.70	69.07	1978-1979	80.3	86.3	2019
	China	67.98	70.94	1985-1990	73.64	79.43	2015
Europe	Iceland	75.04	80.38	1985-1986	81.2	84.3	2020
	Italy	71.40	78.10	1983	79.67	84.40	2020
	UK	71.80	77.74	1983-1985	79.37	83.06	2017-2019
	Austria	70.40	77.36	1985	78.94	83.74	2020
	Netherlands	73.69	80.24	1988	80.5	83.6	2019
	Switzerland	73.60	80.30	1985-1986	81.9	85.6	2019
	Sweden	74.16	80.30	1987	80.6	84.29	2020
	Czech Republic	67.25	74.71	1985	75.3	81.38	2020
	Denmark	71.80	77.60	1987	79.51	83.59	2019-2020
	Germany	71.81	78.37	1985-1987	78.63	83.36	2017-2019
	Norway	72.75	79.55	1987	81.48	84.89	2020
	Finland	70.49	78.72	1986	79.2	84.5	2019
	France	71.52	79.70	1986	79.1	85.12	2020
	Russia	64.15	73.27	1985-1986	67.75	77.82	2018
North America	USA	71.50	78.30	1987	76.3	81.4	2019
	Canada	71.88	78.98	1980-1982	80	84.2	2017- 2019
	Mexico	62.10	66.00	1979	72.2	77.9	2018
South America	Argentina	65.43	72.12	1975-1980	73.72	80.33	2015
	Brazil	62.30	67.60	1985-1990	73.1	80.1	2019
Africa	Egypt	52.29	61.97	1985-1990	74.3	75.5	2020
	South Africa	57.51	63.48	1985-1990	59.1	63.1	2014
Oceania	Australia	72.32	76.83	1985	80.85	85.04	2017-2019
	New Zealand	70.97	76.83	1985	80.29	83.87	2018-2020

Source: Ministry of Health, Labour and Welfare, Abridged Life Table
United Nations, Statistics Division, Demographic Yearbook

Trends of Vital Statistics (Japan)

B-1-3

Year	Live Births	Deaths	Natural Change	Infant Deaths	Neonatal Deaths
	per 1,000 Population			per 1,000 Births	
1900	32.4	20.8	11.6	155.0	79.0
1910	34.8	21.6	13.2	161.2	74.1
1920	36.2	25.4	10.8	165.7	69.0
1925	34.9	20.3	14.7	142.4	58.1
1930	32.4	18.2	14.2	124.1	49.9
1935	31.6	16.8	14.9	106.7	44.7
1940	29.4	16.5	12.9	90.0	38.7
1945	—	—	—	—	—
1950	28.1	10.9	17.2	60.1	27.4
1955	19.4	7.8	11.6	39.8	22.3
1960	17.2	7.6	9.6	30.7	17.0
1965	18.6	7.1	11.4	18.5	11.7
1970	18.8	6.9	11.8	13.1	8.7
1975	17.1	6.3	10.8	10.0	6.8
1980	13.6	6.2	7.3	7.5	4.9
1985	11.9	6.3	5.6	5.5	3.4
1990	10.0	6.7	3.3	4.6	2.6
1995	9.6	7.4	2.1	4.3	2.2
1997	9.5	7.3	2.2	3.7	1.9
1998	9.6	7.5	2.1	3.6	2.0
1999	9.4	7.8	1.6	3.4	1.8
2000	9.5	7.7	1.8	3.2	1.8
2001	9.3	7.7	1.6	3.1	1.6
2002	9.2	7.8	1.4	3.0	1.7
2003	8.9	8.0	0.9	3.0	1.7
2004	8.8	8.2	0.7	2.8	1.5
2005	8.4	8.6	△ 0.2	2.8	1.4
2006	8.7	8.6	0.1	2.6	1.3
2007	8.6	8.8	△ 0.1	2.6	1.3
2008	8.7	9.1	△ 0.4	2.6	1.2
2009	8.5	9.1	△ 0.6	2.4	1.2
2010	8.5	9.5	△ 1.0	2.3	1.1
2011	8.3	9.9	△ 1.6	2.3	1.1
2012	8.2	10.0	△ 1.7	2.2	1.0
2013	8.2	10.1	△ 1.9	2.1	1.0
2014	8.0	10.1	△ 2.1	2.1	0.9
2015	8.0	10.3	△ 2.3	1.9	0.9
2016	7.8	10.5	△ 2.6	2.0	0.9
2017	7.6	10.8	△ 3.2	1.9	0.9
2018	7.4	11.0	△ 3.6	1.9	0.9
2019	7.0	11.2	△ 4.2	1.9	0.9
2020	—	—	—	1.8	0.8

Note 1: No data available for 1945.

Note 2: The birth rate, death rate, and natural change rate for 2020 will be calculated and announced after the population by age group is determined in the 2020 National Census.

Source: Ministry of Health, Labour and Welfare, Vital Statistics

<https://www.mhlw.go.jp/toukei/list/81-1a.html>

Trends of Vital Statistics (Worldwide)

B-1-4

		1960				2020*			
		Live Births	Deaths	Infant Deaths	Neonatal Deaths	Live Births	Deaths	Infant Deaths	Neonatal Deaths
Region	Country	per 1,000 populat.		per 1,000 Births		per 1,000 populat.		per 1,000 Births	
Asia	Japan	17.2	7.6	30.7	17.0	(2019) 7.0	(2019) 11.2	1.8	0.8
	Israel	26.9	5.7	31.0		19.2	5.3	3.0	1.9
	India	(1960~65) 44.0	8.2	86.5		(2018) 20.0	(2018) 6.2	28.3	21.7
	Indonesia	(1960~65) 46.5	21.9	83.9		(2010) 25.3	(2010) 5.2	20.2	12.4
	Korea	39.6	12.4			(2019) 5.9	(2019) 5.7	2.7	1.5
	China	(1960~65) 33.8	13.6			(2019) 10.5	(2019) 7.1	6.8	3.9
Europe	Iceland	28.0	6.6	17.5		(2019) 12.5	(2019) 6.4	1.6	1.0
	Italy	18.4	9.6	43.9	23.9	(2019) 7.0	(2019) 10.6	2.7	1.9
	UK	17.5	11.5	22.5	16.0	10.2	10.3	3.7	2.8
	Austria	17.9	12.7	37.5	24.6	(2019) 9.6	(2019) 9.4	2.8	2.1
	Netherlands	20.8	7.7	17.9	13.5	(2019) 9.8	(2019) 8.8	3.5	2.6
	Switzerland	17.6	9.7	21.1	16.1	(2019) 10.0	(2019) 7.9	3.6	2.8
	Sweden	13.6	10.0	16.0	13.4	(2019) 11.2	(2019) 8.7	2.1	1.4
	Czech Republic	13.4	9.2	23.5	13.1	10.3	12.1	2.5	1.6
	Denmark	16.6	9.5	21.5	16.1	(2019) 10.5	(2019) 9.3	3.2	3.0
	Germany	17.5	11.6	33.8	23.2	9.3	11.9	3.2	2.3
	Norway	17.3	9.1	18.9	11.7	(2019) 10.2	(2019) 7.6	2.0	1.4
	Finland	18.5	9.0	21.0	14.4	(2019) 8.3	(2019) 9.7	1.9	1.4
	France	17.9	11.4	27.4	17.7	(2019) 11.0	(2019) 9.2	3.8	2.7
	Russia	24.9	7.1	32.6		9.8	14.5	4.9	2.6
North America	USA	23.8	9.5	26.0	18.7	(2019) 11.4	(2019) 8.7	5.6	3.7
	Canada	26.3	7.8	27.3		(2019) 9.9	(2019) 7.6	4.2	3.3
	Mexico	41.7	11.5	74.2	(1970) 28.1	(2019) 16.5	(2019) 5.8	12.2	8.6
South America	Argentina	23.0	8.7	62.4		(2019) 13.9	(2019) 7.6	8.2	6.1
	Brazil	(1960~65) 42.1	10.2			(2018) 14.3	(2018) 6.2	12.4	7.9
Africa	Egypt	43.0		(1979) 76.4		22.6	6.6	17.3	11.1
	South Africa	40.2	14.8			(2019) 16.5		27.5	11.5
Oceania	Australia	22.4	8.6	20.2	14.6	(2019) 12.1	(2019) 6.7	3.1	2.3
	New Zealand	26.5	8.8	22.6	13.5	11.3	6.4	3.9	2.6

Note: Infant mortality rate and neonatal mortality rate for 2020 are 2019 data except Japan.

Source: Ministry of Health, Labour and Welfare, Vital Statistics

United Nations, Demographic Yearbook, United Nations, population and vital statistics report: series A

WHO Global Health Observatory Country Views, The World Bank

Mortality and Mortality Rate by Major Causes (Japan)

B-1-5

No. of Deaths	Causes of Death		Year																			
			2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Total			970,331	982,379	1,014,951	1,028,602	1,083,796	1,084,450	1,108,334	1,142,407	1,141,865	1,197,014	1,253,066	1,256,359	1,268,436	1,273,025	1,290,510	1,308,158	1,340,567	1,362,470	1,381,093	1,372,755
Tuberculosis			2,491	2,317	2,337	2,330	2,296	2,269	2,194	2,220	2,159	2,129	2,166	2,110	2,087	2,100	1,956	1,893	2,306	2,204	2,087	1,909
Malignant Neoplasms			300,658	304,568	309,543	320,358	325,941	329,314	336,468	342,963	344,105	353,499	357,305	360,963	364,872	368,106	370,362	373,088	373,365	373,584	376,425	378,385
Stomach			49,958	49,213	49,535	50,562	50,311	50,415	50,597	50,160	50,017	50,136	49,830	49,129	48,632	47,904	46,681	45,546	45,227	44,192	42,931	42,319
Liver			34,311	34,637	34,089	34,510	34,268	33,662	33,599	33,665	32,725	32,765	31,875	30,690	30,175	29,544	28,890	28,535	27,116	25,925	25,264	24,839
Trachea, Bronchus & Lung			55,034	56,405	56,720	59,922	62,063	63,255	65,608	66,849	67,583	69,813	70,293	71,518	72,734	73,396	74,382	73,860	74,127	74,328	75,394	75,585
Diabetes			12,147	12,635	12,879	12,637	13,621	13,650	13,999	14,462	13,987	14,422	14,664	14,486	13,812	13,669	13,328	13,483	13,971	14,181	13,846	13,902
Hypertensive disease			5,857	5,621	5,597	5,706	5,835	5,810	6,144	6,264	6,223	6,760	7,023	7,261	7,165	6,932	6,726	6,843	9,570	9,581	9,549	10,003
Heart disease (excluding hypertensive heart disease)			148,292	152,518	159,545	159,625	173,125	173,024	175,539	181,928	180,745	189,361	194,926	198,836	196,723	196,931	196,127	198,070	204,868	208,221	207,714	205,596
Cerebrovascular disease			131,856	130,257	132,067	129,055	132,847	128,268	127,041	127,023	122,350	123,461	123,867	121,602	118,347	114,209	111,974	109,353	109,896	108,186	106,552	102,978
Pneumonia			85,305	87,421	94,942	95,534	107,241	107,242	110,159	115,317	112,004	118,888	124,749	123,925	122,969	119,652	120,959	119,346	96,859	94,661	95,518	78,450
Hepatic disease			15,848	15,490	15,737	15,885	16,430	16,267	16,195	16,268	15,969	16,216	16,390	15,980	15,930	15,692	15,659	15,780	17,019	17,275	17,273	17,688
Renal disease			17,690	18,185	18,821	19,117	20,528	21,158	21,632	22,517	22,743	23,725	24,526	25,107	25,101	24,776	24,561	24,620	25,135	26,081	26,644	26,948
Senility without psychosis			22,140	22,682	23,449	24,126	26,360	27,764	30,724	35,975	38,670	45,342	52,242	60,719	69,720	75,391	84,819	92,836	101,411	109,605	121,863	132,440
Accidents			39,496	38,643	38,714	38,193	39,863	38,270	37,966	38,153	37,756	40,732	59,416	41,031	39,574	39,030	38,310	38,314	40,332	41,238	39,184	38,133
Suicides			29,375	29,949	32,109	30,247	30,553	29,921	30,827	30,229	30,707	29,554	28,896	26,433	26,063	24,417	23,152	21,021	20,468	20,031	19,425	20,243
Total			770.7	779.6	804.6	815.2	858.8	859.6	879.0	907.1	907.5	947.1	993.1	997.5	1009.1	1014.9	1029.8	1046.4	1075.5	1096.8	1116.2	1116.2
Tuberculosis			2.0	1.8	1.9	1.8	1.8	1.8	1.7	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.5	1.9	1.8	1.7	-
Malignant Neoplasms			238.8	241.7	245.4	253.9	258.3	261.0	266.9	272.3	273.5	279.7	283.2	286.6	290.3	293.5	295.5	298.4	299.5	300.7	304.2	-
Stomach			39.7	39.1	39.3	40.1	39.9	40.0	40.1	39.8	39.8	39.7	39.5	39.0	38.7	38.2	37.2	36.4	36.3	35.6	34.7	-
Liver			27.3	27.5	27.0	27.4	27.2	26.7	26.6	26.7	26.0	25.9	25.3	24.4	24.0	23.6	23.1	22.8	21.8	20.9	20.4	-
Trachea, Bronchus & Lung			43.7	44.8	45.0	47.5	49.2	50.1	52.0	53.1	53.7	55.2	55.7	56.8	57.9	58.5	59.4	59.1	59.5	59.8	60.9	-
Diabetes			9.6	10.0	10.2	10.0	10.8	10.8	11.1	11.5	11.1	11.4	11.6	11.5	11.0	10.9	10.6	10.8	11.2	11.4	11.2	-
Hypertensive disease			4.7	4.5	4.4	4.5	4.6	4.6	4.9	5.0	4.9	5.3	5.6	5.8	5.7	5.5	5.4	5.5	7.7	7.7	7.7	-
Heart disease (excluding hypertensive heart disease)			117.8	121.0	126.5	126.5	137.2	137.2	139.2	144.4	143.7	149.8	154.5	157.9	156.5	157.0	156.5	158.4	164.4	167.6	167.9	-
Cerebrovascular disease			104.7	103.4	104.7	102.3	105.3	101.7	100.8	100.9	97.2	97.7	98.2	96.5	94.1	91.1	89.4	87.5	88.2	87.1	86.1	-
Pneumonia			67.8	69.4	75.3	75.7	85.0	85.0	87.4	91.6	89.0	94.1	98.9	98.4	97.8	95.4	96.5	95.5	77.7	76.2	77.2	-
Hepatic disease			12.6	12.3	12.5	12.6	13.0	12.9	12.8	12.9	12.7	12.8	13.0	12.7	12.7	12.5	12.5	12.6	13.7	13.9	14.0	-
Renal disease			14.0	14.4	14.9	15.2	16.3	16.8	17.2	17.9	18.1	18.8	19.4	19.9	20.0	19.8	19.6	19.7	20.2	21.0	21.5	-
Senility without psychosis			17.6	18.0	18.6	19.1	20.9	22.0	24.4	28.6	30.7	35.9	41.4	48.2	55.5	60.1	67.7	74.3	81.4	88.2	98.5	-
Accidents			31.4	30.7	30.7	30.3	31.6	30.3	30.1	30.3	30.0	32.2	47.1	32.6	31.5	31.1	30.6	30.6	32.4	33.2	31.7	-
Suicides			23.3	23.8	25.5	24.0	24.2	23.7	24.4	24.0	24.4	23.4	22.9	21.0	20.7	19.5	18.5	16.8	16.4	16.1	15.7	-

Note 1: Underlined numerical data have been revised due to revision in accordance with changes in data in the quoted sources.

Note 2: The death rate for 2020 will be calculated and announced after the population by age group is determined in the 2020 National Census.

Source: Ministry of Health, Labour and Welfare, Vital Statistics
<https://www.mhlw.go.jp/toukei/list/81-1a.html>

Mortality Rate by Major Causes (Worldwide)

B-1-6

2016

No. of Deaths	Causes of Death	USA		UK		Germany		France		Japan	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Total		1,400,232	1,344,016	292,999	304,205	448,304	462,595	289,065	290,423	674,733	633,015
Total		880.2	819.3	909.2	917.4	1,106.5	1,110.4	923.2	872.3	1,092.1	970.7
Deaths per 100,000 population	Tuberculosis	0.2	0.1	0.4	0.2	0.4	0.2	0.4	0.3	1.8	1.2
	Malignant Neoplasms	197.8	172.8	274.4	235.5	308.9	253.5	292.7	207.5	355.8	234.9
	Esophagus	7.7	1.9	17.1	7.6	10.9	3.0	9.4	2.7	15.4	3.0
	Stomach	4.3	2.8	8.9	4.8	13.3	9.3	9.2	4.6	48.3	24.0
	Colon, Rectosigmoid Junction, Rectum & Anus	17.6	15.4	28.0	23.4	33.6	28.1	29.9	25.1	44.1	35.7
	Liver	11.2	5.3	10.2	6.5	13.4	6.3	19.7	7.4	30.0	15.4
	Trachea, Bronchus & Lung	50.8	41.5	60.1	49.2	72.4	39.6	71.3	27.7	84.9	32.8
	Prostate	57.8	—	103.2	—	87.1	—	77.2	—	44.2	—
	Breast (Female)	—	30.9	—	41.9	—	51.1	—	45.2	—	24.4
	Cervix Uteri	—	3.1	—	3.1	—	4.3	—	2.7	—	4.7
	Lymphoid, Leukemia & Haematopoietic tissue	20.3	15.3	23.1	17.4	26.4	21.7	24.5	19.2	23.5	16.9
	Diabetes	27.5	22.1	10.7	10.0	34.2	41.8	17.8	17.2	11.7	9.6
	Hypertensive Disease	24.9	26.3	9.6	13.0	31.5	66.8	11.4	20.4	4.4	6.3
	Ischaemic Heart Diseases	132.1	93.4	125.1	77.7	164.9	133.2	61.8	39.4	65.4	46.1
	Cerebrovascular Diseases	37.3	50.5	49.7	65.6	57.4	78.5	41.3	55.0	85.3	86.8
	Pneumonia	14.8	15.3	41.6	48.9	23.5	22.0	19.2	21.1	106.2	82.3
	Gastric & Duodenal Ulcer	1.0	0.9	3.4	2.8	2.8	3.0	1.3	1.3	2.5	1.7
	Diseases of the Liver	20.4	12.6	18.5	11.0	25.8	13.0	17.2	7.1	16.4	8.7
	Disorders of Kidney and Ureter	17.8	16.9	6.5	7.4	19.6	24.2	10.9	12.0	24.1	25.4
	Transport Accidents	19.0	7.3	4.3	1.3	6.5	2.2	7.1	2.3	5.9	2.5
	Intentional Self-Harm	21.8	6.2	11.4	3.3	18.2	5.9	20.6	6.0	23.7	9.8

Source: United Nations, Statistics Division, Demographic Yearbook

B. Statistics on Health

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National Health Care Expenditures (Japan)

B-2-1

Fiscal Year	National Health Care Expenditures				Proportion of National Health Care Expenditures	
	Value (JPY 100 mil.)	Change (%)	per Capita (JPY 1,000)	Change (%)	% of GDP	% of National Income
1954	2,152	-	2.4	-	-	-
1955	2,388	11.0	2.7	12.5	2.78	3.42
1965	11,224	19.5	11.4	17.5	3.32	4.18
1975	64,779	20.4	57.9	19.1	4.25	5.22
1985	160,159	6.1	132.3	5.4	4.85	6.15
1986	170,690	6.6	140.3	6.0	4.99	6.37
1987	180,759	5.9	147.8	5.3	4.99	6.43
1988	187,554	3.8	152.8	3.4	4.84	6.20
1989	197,290	5.2	160.1	4.8	4.74	6.15
1990	206,074	4.5	166.7	4.1	4.56	5.94
1991	218,260	5.9	176.0	5.6	4.61	5.92
1992	234,784	7.6	188.7	7.2	4.86	6.41
1993	243,631	3.8	195.3	3.5	5.05	6.67
1994	257,908	5.9	206.3	5.6	5.04	6.91
1995	269,577	4.5	214.7	4.1	5.13	7.09
1996	284,542	5.6	226.1	5.3	5.28	7.22
1997	289,149	1.6	229.2	1.4	5.33	7.40
1998	295,823	2.3	233.9	2.1	5.53	7.80
1999	307,019	3.8	242.3	3.6	5.79	8.12
2000	301,418	△ 1.8	237.5	△ 2.0	5.61	7.73
2001	310,998	3.2	244.3	2.9	5.90	8.27
2002	309,507	△ 0.5	242.9	△ 0.6	5.91	8.27
2003	315,375	1.9	247.1	1.7	5.99	8.27
2004	321,111	1.8	251.5	1.8	6.06	8.26
2005	331,289	3.2	259.3	3.1	6.20	8.54
2006	331,276	0.0	259.3	0.0	6.17	8.39
2007	341,360	3.0	267.2	3.0	6.34	8.65
2008	348,084	2.0	272.6	2.0	6.74	9.55
2009	360,067	3.4	282.4	3.6	7.24	10.21
2010	374,202	3.9	292.2	3.5	7.41	10.26
2011	385,850	3.1	301.9	3.3	7.72	10.79
2012	392,117	1.6	307.5	1.9	7.85	10.95
2013	400,610	2.2	314.7	2.3	7.81	10.75
2014	408,071	1.9	321.1	2.0	7.80	10.83
2015	423,644	3.8	333.3	3.8	7.83	10.79
2016	421,381	△ 0.5	332.0	△ 0.4	7.73	10.74
2017	430,710	2.2	339.9	2.4	7.75	10.75
2018	433,949	0.8	343.2	1.0	7.79	10.79
2019	443,895	2.3	351.8	2.5	7.93	11.06

Note :

1. Long-Term Care Insurance cost was excluded since 2000 according to the introduction of the Long-Term Care Insurance system in Japan.
2. GDP and National Income were based on Economic and Social Research Institute, Cabinet Office, Annual Report on National Accounts.
<https://www.esri.cao.go.jp/jp/sna/menu.html>
3. In accordance with the revisions of the data in the Summary of National Health Care Expenditure in FY2019, the ratios of National Health Care Expenditures to GDP and NI have been retrospectively revised.

Source :

Ministry of Health, Labour, and Welfare, Estimates of National Medical Care Expenditure
<https://www.mhlw.go.jp/toukei/list/37-21c.html>

National Health Care Expenditures (Worldwide)

B-2-2

Year	1970	1975	1980	1985	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	
Australia	Value(USD mil.)	—	5,200	8,703	13,503	19,896	27,673	40,981	44,126	48,369	50,823	56,145	57,957	61,250	66,597	71,188	74,226	79,207	85,096	87,619	94,655	98,369	104,401	111,882	114,621	119,754	124,780
	% of GDP		5.8	5.8	6.1	6.5	6.9	7.6	7.7	7.9	7.9	8.1	8.0	8.0	8.1	8.3	8.6	8.4	8.5	8.7	8.8	9.0	9.3	9.2	9.3	9.4	9.4
Austria	Value(USD mil.)	1,293	2,929	5,359	6,262	11,364	16,557	22,453	22,984	25,062	25,967	27,871	28,599	30,032	31,489	33,363	34,187	35,637	36,463	38,680	40,424	41,521	42,725	45,392	46,762	49,019	50,661
	% of GDP	4.8	6.5	7.0	6.0	7.7	8.9	9.2	9.3	9.4	9.5	9.7	9.6	9.5	9.5	9.7	10.2	10.2	10.0	10.2	10.3	10.4	10.4	10.4	10.4	10.3	10.4
Belgium	Value(USD mil.)	1,442	3,282	5,832	8,523	12,957	16,911	23,549	24,721	27,321	30,257	32,292	32,659	33,794	35,240	38,106	40,270	42,735	44,872	47,137	49,502	51,430	52,473	56,701	58,425	61,236	62,711
	% of GDP	3.9	5.5	6.2	6.9	7.1	7.5	8.0	8.2	8.3	9.2	9.4	9.3	9.2	9.2	9.6	10.4	10.2	10.4	10.5	10.6	10.6	10.4	10.8	10.8	10.8	10.7
Canada	Value(USD mil.)	5,940	11,279	19,406	31,333	47,054	58,146	75,210	81,359	86,493	92,162	98,682	106,144	113,509	121,912	127,980	132,829	141,301	145,118	150,410	155,231	160,623	165,333	181,977	187,767	197,549	201,871
	% of GDP	6.4	6.5	6.6	7.6	8.4	8.6	8.2	8.6	8.9	9.0	9.1	9.0	9.3	9.4	9.6	10.7	10.7	10.4	10.5	10.4	10.2	10.7	11.0	10.8	10.8	10.8
Denmark	Value(USD mil.)	—	2,571	4,077	5,651	7,400	8,962	12,520	13,243	14,578	14,676	15,783	16,339	17,870	19,449	20,753	22,221	23,099	23,228	24,128	25,019	25,600	26,561	27,779	29,305	30,802	31,849
	% of GDP	—	8.5	8.4	7.9	8.0	7.8	8.1	8.4	8.7	8.9	9.0	9.1	9.2	9.3	9.5	10.7	10.3	10.2	10.2	10.2	10.2	10.1	10.0	10.1	10.0	10.0
France	Value(USD mil.)	9,933	19,591	36,394	56,581	84,753	124,649	163,226	175,902	194,303	189,685	198,260	205,672	218,361	228,894	239,345	250,781	262,290	271,042	281,349	299,234	307,078	310,775	328,434	334,244	344,649	354,688
	% of GDP	5.2	6.2	6.8	7.7	8.0	9.9	9.6	9.7	10.0	10.1	10.2	10.2	10.4	10.3	10.5	11.3	11.2	11.2	11.3	11.4	11.5	11.4	11.5	11.3	11.2	11.1
Germany	Value(USD mil.)	15,416	32,917	55,896	79,257	108,982	190,721	235,753	245,211	264,295	271,446	276,224	278,981	289,313	303,605	319,423	335,258	355,263	366,580	381,655	399,312	417,175	432,604	466,965	492,597	521,564	541,600
	% of GDP	5.7	8.0	8.1	8.5	8.0	9.5	9.9	9.9	10.2	10.4	10.1	10.3	10.2	10.1	10.3	11.2	11.1	10.8	10.9	11.0	11.0	11.2	11.2	11.3	11.5	11.7
Ireland	Value(USD mil.)	342	803	1,620	2,143	2,639	4,074	6,960	8,249	9,511	10,304	11,415	12,868	13,687	14,879	16,357	17,516	18,482	19,225	20,049	19,882	19,547	20,197	21,574	22,515	23,838	25,082
	% of GDP	4.9	6.6	7.5	6.8	5.6	6.1	5.9	6.4	6.7	7.0	7.2	7.6	7.5	7.8	9.1	10.5	10.5	10.7	10.7	10.3	9.5	7.3	7.4	7.1	6.9	6.7
Italy	Value(USD mil.)	—	—	—	—	72,155	83,143	115,570	122,544	130,820	131,181	141,370	145,161	154,687	157,440	172,507	173,903	184,114	183,973	182,883	183,288	184,608	187,593	198,496	204,377	212,810	218,214
	% of GDP	—	—	—	—	7.0	6.8	7.6	7.7	7.9	7.8	8.2	8.3	8.4	8.1	8.5	9.0	8.9	8.8	8.8	8.8	8.9	8.9	8.7	8.7	8.7	8.7
Japan	Value(USD mil.)	15,886	31,701	62,393	98,691	134,100	176,852	234,918	247,302	263,170	280,346	294,447	315,738	327,356	344,242	358,532	380,824	405,880	478,197	506,641	548,931	550,729	573,903	545,285	559,136	576,413	591,908
	% of GDP	4.4	5.4	6.2	6.5	5.8	6.3	7.2	7.4	7.5	7.6	7.7	7.8	7.8	7.9	8.2	9.1	9.2	10.6	10.8	10.8	10.9	10.8	10.8	10.8	10.9	11.0
Korea	Value(USD mil.)	613	1,111	3,493	6,752	15,250	23,250	34,090	40,774	42,228	46,582	49,666	54,656	61,813	69,819	76,337	83,150	93,114	98,211	103,991	107,371	113,327	127,113	136,482	143,934	159,559	176,134
	% of GDP	2.6	2.3	3.4	3.3	3.6	3.4	3.9	4.4	4.2	4.4	4.4	4.6	4.9	5.1	5.4	5.8	5.9	6.0	6.1	6.2	6.5	6.7	6.9	7.1	7.5	8.2
Luxembourg	Value(USD mil.)	—	—	207	279	536	812	1,426	1,574	1,820	1,912	2,099	2,171	2,317	2,317	2,516	2,664	2,662	2,504	2,349	2,519	2,619	2,673	2,838	2,975	3,174	3,357
	% of GDP	—	—	4.6	4.5	5.1	5.3	5.9	6.4	6.7	7.0	7.3	7.2	6.7	6.2	6.5	7.3	7.0	6.1	5.6	5.5	5.4	5.3	5.2	5.3	5.3	5.4
Netherlands	Value(USD mil.)	—	6,180	10,606	14,144	20,901	26,992	42,143	46,244	53,242	53,675	56,893	58,481	62,553	66,748	72,005	73,420	74,383	76,243	80,128	82,743	83,222	83,465	86,440	90,004	95,430	99,546
	% of GDP	—	6.2	6.5	6.5	7.0	7.3	7.7	8.1	8.6	9.1	9.1	9.1	9.1	9.3	10.0	10.2	10.2	10.2	10.5	10.6	10.6	10.3	10.3	10.1	10.0	10.2
Norway	Value(USD mil.)	597	1,311	2,481	3,767	5,764	7,703	12,541	13,258	15,381	15,736	16,784	17,295	18,471	20,293	21,955	22,618	23,368	24,593	26,145	27,866	29,320	29,715	30,906	32,899	34,723	36,070
	% of GDP	4.0	5.2	5.4	5.5	7.1	7.3	7.7	8.0	9.0	9.2	8.8	8.3	7.9	8.1	8.0	9.1	8.9	8.8	8.8	8.9	9.3	10.1	10.6	10.3	10.0	10.5
Portugal	Value(USD mil.)	387	1,358	2,492	3,720	6,285	10,109	16,898	17,711	19,163	20,097	21,859	22,936	23,560	24,240	25,847	26,609	27,293	25,945	25,455	26,187	26,394	27,299	29,068	29,937	32,423	34,433
	% of GDP	2.3	4.7	4.8	5.4	5.5	7.2	8.6	8.6	8.8	9.1	9.5	9.7	9.4	9.3	9.6	10.1	10.0	9.7	9.7	9.4	9.3	9.3	9.4	9.3	9.4	9.5
Spain	Value(USD mil.)	2,801	6,625	12,365	17,089	31,890	44,685	61,800	66,788	74,722	84,988	91,110	96,569	106,200	112,295	122,767	127,403	127,549	127,789	127,631	128,861	132,835	140,239	146,359	154,717	161,155	169,698
	% of GDP	3.1	4.2	5.0	5.0	6.1	7.0	6.8	6.8	6.8	7.6	7.7	7.7	7.8	7.9	8.4	9.1	9.1	9.2	9.2	9.1	9.1	9.1	9.0	9.0	9.0	9.1
Sweden	Value(USD mil.)	2,185	4,106	7,454	9,345	12,732	14,056	19,475	21,338	23,539	23,966	24,936	25,379	27,312	29,494	31,485	32,147	32,193	42,139	44,547	45,429	47,177	49,036	50,881	52,495	55,522	57,068
	% of GDP	5.4	6.5	7.7	7.2	7.2	7.2	7.3	7.9	8.2	8.3	8.1	8.2	8.1	8.0	8.2	8.8	8.3	10.4	10.7	10.9	10.9	10.8	10.9	10.8	10.9	10.9
Switzerland	Value(USD mil.)	2,015	3,703	6,061	9,608	14,323	18,357	23,886	25,687	28,316	28,728	30,352	30,537	31,666	34,695	37,512	39,248	39,842	41,616	44,505	47,921	50,431	53,553	57,006	58,034	59,414	61,211
	% of GDP	4.8	6.1	6.4	7.3	7.6	8.6	9.1	9.4	9.9	10.1	10.2	10.0	9.5	9.4	9.5	10.1	9.9	10.0	10.2	10.5	10.6	11.0	11.3	11.5	11.2	11.3
UK	Value(USD mil.)	6,898	12,656	21,661	31,037	44,728	63,387	111,468	124,641	139,712	147,475	163,902	165,275	178,371	188,331	198,058	203,678	212,761	218,485	228,538	236,616	244,145	249,485	261,866	270,502	284,919	300,595
	% of GDP	4.0	4.9	5.1	5.1	5.1	5.6	7.2	7.6	7.9	8.1	8.4	8.4	8.6	8.8	9.1	9.9	9.8	9.8	9.8	9.9	10.0	10.0	9.9	9.8	9.9	10.2
USA	Value(USD mil.)	67,044	121,107	235,473	412,835	670,215	955,066	1,279,936	1,392,951	1,529,114	1,661,289	1,782,570	1,904,007	2,033,282	2,158,937	2,246,212	2,345,568	2,437,591	2,517,666	2,619,936	2,696,405	2,848,748	3,013,710	3,157,481	3,284,361	3,439,523	3,593,722
	% of GDP	6.2	7.2	8.2	9.5	11.2	12.5	12.5	13.2	14.0	14.5	14.6	14.6	14.7	14.9	15.3	16.2	16.3	16.2	16.2	16.1	16.3	16.5	16.8	16.8	16.7	16.8

Note :

Values have been retrospectively revised in accordance with revisions in the source documents cited.

Source : OECD, OECD Health Data

National Health Care Expenditures and Share by Source of Revenues (Japan) B-2-3

Fiscal Year	National Health Care Expenditures			Source of Revenue (%)							
	Total (JPY 100 mil.)	% of GDP	per Capita (JPY 1,000)	Public Expenses	National Treasury	Perfectures	Health Insurance	Employer	Employee	Out of pockets	Others
1990	206,074	4.56	166.7	31.4	24.6	6.8	56.3	24.5	31.9	12.1	0.2
1995	269,577	5.13	214.7	31.7	24.2	7.5	56.4	24.5	31.9	11.8	0.1
2000	301,418	5.61	237.5	33.2	24.7	8.5	53.4	22.7	30.7	13.4	0.1
2004	321,111	6.06	251.5	35.7	26.0	9.7	49.8	20.6	29.3	14.4	0.1
2005	331,289	6.20	259.3	36.4	25.1	11.4	49.2	20.2	28.9	14.4	0.0
2006	331,276	6.17	259.3	36.6	24.7	11.9	49.0	20.2	28.8	14.4	0.0
2007	341,360	6.34	267.2	36.7	24.7	12.0	49.2	20.3	28.9	14.1	0.0
2008	348,084	6.74	272.6	37.1	25.1	12.0	48.8	20.4	28.3	14.1	0.1
2009	360,067	7.24	282.4	37.5	25.3	12.1	48.6	20.3	28.3	13.9	0.0
2010	374,202	7.41	292.2	38.1	25.9	12.2	48.5	20.1	28.3	12.7	0.7
2011	385,850	7.72	301.9	38.4	26.0	12.4	48.6	20.2	28.4	12.3	0.7
2012	392,117	7.85	307.5	38.6	25.8	12.8	48.8	20.3	28.5	11.9	0.7
2013	400,610	7.81	314.7	38.8	25.9	12.9	48.7	20.3	28.5	11.8	0.7
2014	408,071	7.80	321.1	38.8	25.8	13.0	48.7	20.4	28.3	11.7	0.8
2015	423,644	7.83	333.3	38.9	25.7	13.2	48.8	20.6	28.2	11.6	0.7
2016	421,381	7.73	332.0	38.6	25.4	13.2	49.1	20.8	28.3	11.5	0.7
2017	430,710	7.75	339.9	38.4	25.3	13.1	49.4	21.1	28.3	11.6	0.7
2018	433,949	7.79	343.2	38.3	25.4	12.8	49.3	21.2	28.0	11.8	0.7
2019	443,895	7.93	351.8	38.3	25.4	12.8	49.4	21.3	28.1	11.7	0.6

Note :

1. In accordance with the revisions of the data in the Summary of National Health Care Expenditure in FY2019, the ratios of National Health Care Expenditures to GDP have been retrospectively revised.
2. Long-term care insurance cost was excluded since 2000.
3. Special measures to reduce insurance premiums are included in National Treasury.
4. GDP was based on Economic and Social Research Institute, Cabinet Office, Annual Report on National Accounts
<https://www.esri.cao.go.jp/jp/sna/menu.html>

Source :

Ministry of Health, Labour and Welfare, Estimates of National Medical Care Expenditure
<https://www.mhlw.go.jp/toukei/list/37-21c.html>

National Health Care Expenditures and Share by Source of Revenues (USA) B-2-4

Year	National Health Care Expenditures			Source of Revenue (%)					
	Total (USD bil.)	% of GDP	per Capita (USD)	Government			Insurance Premium	Out of pockets	Others
					Federal	State & Local			
1990	612	12.1	2,835	39.4	28.3	11.1	32.7	21.9	6.0
2000	1,157	13.3	4,844	42.9	31.9	11.0	34.1	16.7	6.3
2001	1,257	14.0	5,211	43.8	32.8	11.1	34.4	16.0	5.8
2002	1,366	14.9	5,678	43.9	32.7	11.2	34.6	16.0	5.5
2003	1,477	15.4	6,112	44.0	33.0	11.0	34.6	15.9	5.5
2004	1,583	15.5	6,481	44.5	33.4	11.1	34.5	15.7	5.4
2005	1,694	15.5	6,870	44.4	33.2	11.2	34.6	15.6	5.3
2006	1,807	15.7	7,268	44.9	34.3	10.5	34.2	15.4	5.5
2007	1,922	15.9	7,665	44.9	34.4	10.5	34.1	15.3	5.7
2008	2,008	16.3	7,910	46.0	35.8	10.2	33.8	14.9	5.2
2009	2,106	17.2	8,135	47.0	37.9	9.1	33.7	14.1	5.2
2010	2,181	17.2	8,380	47.5	38.4	9.0	33.2	13.8	5.5
2011	2,255	17.2	8,598	47.6	37.6	10.0	33.4	13.7	5.3
2012	2,347	17.1	8,875	47.4	37.0	10.3	33.2	13.8	5.7
2013	2,406	17.0	9,045	48.0	37.5	10.4	32.4	13.7	5.9
2014	2,527	17.1	9,436	48.6	38.6	10.0	32.2	13.5	5.7
2015	2,674	17.4	9,873	48.7	39.0	9.7	32.5	13.2	5.6
2016	2,795	17.7	10,242	48.2	38.8	9.4	32.8	13.1	5.9
2017	2,905	17.7	10,611	48.1	38.8	9.3	32.9	12.8	6.1
2018	3,022	17.6	11,040	48.3	39.0	9.2	32.8	12.8	6.1
2019	3,175	17.6	11,462	48.5	39.5	9.0	32.6	12.7	6.1
2020	3,358	19.7	12,530	52.8	44.9	7.9	29.8	11.6	5.8

Note :

1. 'National Health Care Expenditure' are Personal Health Care which is equivalent to Japanese National Health Care Expenditure. The ratio to GDP and medical treatment expenses per capita are calculated based on National Health Expenditure in NHE Web tables of CMS data.
2. 'Insurance Premium' includes only Private Health Insurance.
3. Values have been retrospectively revised in accordance with revisions in the source documents cited.

Source :

Centers for Medicare & Medicaid Services, National Health Expenditure Data

<https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NationalHealthAccountsHistorical.html>

Proportion of National Treasury Expenses in National Health Care Expenditures (Japan) B-2-5

Fiscal Year	General Accounts Budget (A) (JPY 100 mil.)	National Health Care Expenditures (B) (JPY 100 mil.)	National Treasury Expenses in (B) (C) (JPY 100 mil.)	(C) / (A) (%)	(C) / (B) (%)
1970	82,131	24,962	6,031	7.3	24.2
1975	212,888	64,779	18,725	8.8	28.9
1980	425,888	119,805	36,464	8.6	30.4
1985	524,996	160,159	42,551	8.1	26.6
1990	662,368	206,074	50,787	7.7	24.6
1995	709,871	269,577	65,132	9.2	24.2
2000	849,871	301,418	74,302	8.7	24.7
2001	826,524	310,998	77,399	9.4	24.9
2002	812,300	309,507	78,113	9.6	25.2
2003	817,891	315,375	80,639	9.9	25.6
2004	821,109	321,111	84,121	10.2	26.2
2005	821,829	331,289	83,544	10.2	25.2
2006	796,860	331,276	82,367	10.3	24.9
2007	829,088	341,360	84,794	10.2	24.8
2008	830,613	348,084	87,234	10.5	25.1
2009	885,480	360,067	91,287	10.3	25.4
2010	922,992	374,202	97,038	10.5	25.9
2011	924,116	385,850	100,303	10.9	26.0
2012	903,339	392,117	101,134	11.2	25.8
2013	926,115	400,610	103,636	11.2	25.9
2014	958,823	408,071	105,369	11.0	25.8
2015	963,420	423,644	108,699	11.3	25.7
2016	967,218	421,381	107,180	11.1	25.4
2017	974,547	430,710	108,972	11.2	25.3
2018	977,128	433,949	110,400	11.3	25.4
2019	1,014,571	443,895	112,963	11.1	25.4

Notes :

Values have been retrospectively revised in accordance with revisions in the source documents cited.

Source :

National Health Care Expenditures: Ministry of Health, Labour and Welfare, Estimates of National Medical Care Expenditure

<https://www.mhlw.go.jp/toukei/list/37-21c.html>

General Accounts Budget: Ministry of Finance Japan, Budget

https://www.mof.go.jp/budget/budger_workflow/budget/index.html

Proportion of National Treasury Expenses in National Health Care Expenditures (USA) B-2-6

Year	Outlays: Budget (A) (USD bil.)	National Health Care Expenditure (B) (USD bil.)	National Treasury Expense in (B) (C) (USD bil.)	(C) / (A) (%)	(C) / (B) (%)
1980	590.9	217.0	62.6	10.6	28.9
1985	946.3	376.4	109.0	11.5	29.0
1990	1,251.7	612.0	173.2	13.8	28.3
1995	1,515.7	866.8	294.7	19.4	34.0
2000	1,788.1	1,157.0	369.3	20.7	31.9
2003	2,140.4	1,476.5	486.9	22.7	33.0
2004	2,318.8	1,583.0	529.1	22.8	33.4
2005	2,479.4	1,694.4	563.0	22.7	33.2
2006	2,708.7	1,807.0	620.6	22.9	34.3
2007	2,784.3	1,922.2	661.8	23.8	34.4
2008	2,931.2	2,008.0	719.0	24.5	35.8
2009	3,997.8	2,106.2	798.0	20.0	37.9
2010	3,720.7	2,181.3	838.4	22.5	38.4
2011	3,818.8	2,254.7	848.2	22.2	37.6
2012	3,795.5	2,347.0	869.4	22.9	37.0
2013	3,684.9	2,405.7	902.9	24.5	37.5
2014	3,650.5	2,527.3	975.2	26.7	38.6
2015	3,758.6	2,674.1	1,041.6	27.7	39.0
2016	3,951.3	2,795.3	1,084.0	27.4	38.8
2017	3,980.7	2,905.2	1,127.0	28.3	38.8
2018	4,173.0	3,021.8	1,179.9	28.3	39.0
2019	4,529.2	3,175.2	1,254.6	27.7	39.5
2020	4,789.7	3,357.8	1,508.4	31.5	44.9

Note :

1. 'National Health Care Expenditure' are Personal Health Care which is equivalent to Japanese National Health Care Expenditure.
2. 'National Treasury Expense' represent the expense of the Federal Government.
3. Values have been retrospectively revised in accordance with revisions in the source documents cited.

Source :

National Health Care Expenditure:

Centers for Medicare & Medicaid Services, National Health Expenditure Data

<https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NationalHealthAccountsHistorical.html>

National Treasury Expense:

Until 1995, Bank of Japan, Comparative Economic and Financial Statistics Japan and Other Major Countries

2000, Toyo Keizai, Economic Statistic Almanac

From 2003, United States Department of the Treasury, Joint Statement on Budget Results for Fiscal Year

Social Benefit by Category (Japan)

B-2-7

Fiscal Year	Medical Care	Pensions	Welfare & Others	Long-term Care	Total
Value (JPY 100 mil.)					
2000	266,049	405,367	112,646	32,806	784,062
2001	272,320	419,419	125,053	41,563	816,792
2002	268,767	433,107	136,616	47,053	838,490
2003	272,020	441,989	131,394	51,559	845,403
2004	277,173	450,514	133,216	56,167	860,904
2005	287,444	461,194	139,891	58,701	888,529
2006	293,174	471,517	142,040	60,492	906,731
2007	302,291	481,153	147,350	63,584	930,795
2008	308,655	493,777	156,009	66,513	958,442
2009	321,038	515,524	180,153	71,192	1,016,715
2010	336,440	522,286	194,921	75,082	1,053,647
2011	347,874	523,253	211,686	78,891	1,082,813
2012	353,432	532,329	205,073	83,978	1,090,834
2013	360,751	538,799	208,293	87,888	1,107,843
2014	367,806	535,104	218,891	91,908	1,121,801
2015	385,640	540,929	241,564	95,106	1,168,133
2016	388,162	543,800	251,154	97,175	1,183,115
2017	394,230	548,349	258,098	101,030	1,200,677
2018	397,480	552,581	263,926	103,885	1,213,987
2019	407,226	554,520	277,494	107,361	1,239,241
Share (%)					
2000	33.9	51.7	14.4	4.2	100.0
2001	33.3	51.3	15.3	5.1	100.0
2002	32.1	51.7	16.3	5.6	100.0
2003	32.2	52.3	15.5	6.1	100.0
2004	32.2	52.3	15.5	6.5	100.0
2005	32.4	51.9	15.7	6.6	100.0
2006	32.3	52.0	15.7	6.7	100.0
2007	32.5	51.7	15.8	6.8	100.0
2008	32.2	51.5	16.3	6.9	100.0
2009	31.6	50.7	17.7	7.0	100.0
2010	31.9	49.6	18.5	7.1	100.0
2011	32.1	48.3	19.5	7.3	100.0
2012	32.4	48.8	18.8	7.7	100.0
2013	32.6	48.6	18.8	7.9	100.0
2014	32.8	47.7	19.5	8.2	100.0
2015	33.0	46.3	20.7	8.1	100.0
2016	32.8	46.0	21.2	8.2	100.0
2017	32.8	45.7	21.5	8.4	100.0
2018	32.7	45.5	21.7	8.6	100.0
2019	32.9	44.7	22.4	8.7	100.0
Percentage of National Income (%)					
2000	6.8	10.4	2.9	0.8	20.1
2001	7.2	11.2	3.3	1.1	21.7
2002	7.2	11.6	3.7	1.3	22.4
2003	7.1	11.6	3.4	1.4	22.2
2004	7.1	11.6	3.4	1.4	22.2
2005	7.4	11.9	3.6	1.5	22.9
2006	7.4	11.9	3.6	1.5	23.0
2007	7.7	12.2	3.7	1.6	23.6
2008	8.5	13.6	4.3	1.8	26.3
2009	9.1	14.6	5.1	2.0	28.8
2010	9.2	14.3	5.3	2.1	28.9
2011	9.7	14.6	5.9	2.2	30.3
2012	9.9	14.9	5.7	2.3	30.5
2013	9.7	14.5	5.6	2.4	29.7
2014	9.8	14.2	5.8	2.4	29.8
2015	9.8	13.8	6.2	2.4	29.8
2016	9.9	13.9	6.4	2.5	30.2
2017	9.8	13.7	6.4	2.5	30.0
2018	9.9	13.7	6.6	2.6	30.2
2019	10.1	13.8	6.9	2.7	30.9

Note :

1. Values have been retrospectively revised in accordance with revisions in the source documents cited.

2. National Income was based on Economic and Social Research Institute, Cabinet Office, Annual Report on National Accounts.
<https://www.esri.cao.go.jp/jp/sna/menu.html>

Source :

National Institute of Population and Social Security Research, The Financial Statistics of Social Security in Japan
http://www.ipss.go.jp/ss-cost/j/fsss-R01/fsss_R01.asp

B. Statistics on Health

B-3. Medical Care Systems

B-3-1. Number of Medical Care Facilities (Japan)100

B-3-2. Number of Beds in Medical Care Facilities (Japan)101

B-3-3. Number of Medical Care Personnel (Japan)102

Number of Medical Care Facilities (Japan)

B-3-1

Year	Hospitals & Clinics														Pharmacies
	Total	Hospitals	Psychiatric Hospitals	Infectious Dis. Hospitals	Tuberculosis Sanatoria	General Hospitals	Regional Medical Care Support Hospitals (re-sum)	General Practitioners	With Beds	Without Beds	Dental Clinics	With Beds	Without Beds		
Number of Facilities															
1990	143,164	10,096	1,049	10	15	9,022	-	80,852	23,589	57,263	52,216	51	52,165	36,981	
1995	155,082	9,606	1,059	5	8	8,519	-	87,069	21,764	65,305	58,407	52	58,355	39,433	
2000	165,451	9,266	1,058	-	3	8,205	26	92,824	17,853	74,971	63,361	46	63,315	46,763	
2001	167,555	9,239	1,065	-	3	8,171	29	94,019	17,218	76,801	64,297	39	64,258	48,252	
2002	169,079	9,187	1,069	-	2	8,116	43	94,819	16,178	78,641	65,073	59	65,014	49,332	
2003	171,000	9,122	1,073	-	2	8,047	48	96,050	15,371	80,679	65,828	58	65,770	49,956	
2004	172,685	9,077	1,076	-	2	7,999	84	97,051	14,765	82,286	66,557	54	66,503	50,600	
2005	173,200	9,026	1,073	-	1	7,952	106	97,442	13,477	83,965	66,732	49	66,683	51,233	
2006	174,944	8,943	1,072	-	1	7,870	135	98,609	12,858	85,751	67,392	47	67,345	51,952	
2007	176,192	8,862	1,076	-	1	7,785	176	99,532	12,399	87,133	67,798	48	67,750	52,539	
2008	175,656	8,794	1,079	-	1	7,714	228	99,083	11,500	87,583	67,779	41	67,738	53,304	
2009	176,471	8,739	1,083	-	1	7,655	267	99,635	11,072	88,563	68,097	40	68,057	53,642	
2010	176,878	8,670	1,082	-	1	7,587	316	99,824	10,620	89,204	68,384	41	68,343	53,001	
2011	176,308	8,605	1,076	-	1	7,528	378	99,547	9,934	89,613	68,156	38	68,118	54,780	
2012	177,191	8,565	1,071	-	1	7,493	432	100,152	9,596	90,556	68,474	37	68,437	55,797	
2013	177,769	8,540	1,066	-	0	7,474	466	100,528	9,249	91,279	68,701	37	68,664	57,071	
2014	177,546	8,493	1,067	-	0	7,426	493	100,461	8,355	92,106	68,592	32	68,560	57,784	
2015	178,212	8,480	1,064	-	0	7,416	515	100,995	7,961	93,034	68,737	29	68,708	58,326	
2016	178,911	8,442	1,061	-	-	7,380	543	101,529	7,269	93,900	68,940	27	68,913	58,678	
2017	178,492	8,412	1,059	-	-	7,353	556	101,471	7,202	94,269	68,609	24	68,585	59,138	
2018	179,090	8,372	1,058	-	-	7,314	604	102,105	6,934	95,171	68,613	21	68,592	59,613	
2019	179,416	8,300	1,054	-	-	7,246	618	102,616	6,644	95,972	68,500	20	68,480	60,171	
Number of Facilities per 100,000 Population															
1990	115.8	8.2	0.8	0.0	0.0	7.3	-	65.4	19.1	46.3	42.2	-	-	29.9	
1995	123.5	7.7	0.8	0.0	0.0	6.8	-	69.3	17.3	52.0	46.5	-	-	31.4	
2000	130.4	7.3	0.8	-	0.0	6.5	0.0	73.1	14.1	59.1	49.9	-	-	37.2	
2001	131.6	7.3	0.8	-	0.0	6.4	0.0	73.9	13.5	60.3	50.5	-	-	37.9	
2002	132.7	7.2	0.8	-	0.0	6.4	0.0	74.4	12.7	61.7	51.1	-	-	38.7	
2003	134	7.1	0.8	-	0.0	6.3	0.0	75.3	12.0	63.2	51.6	-	-	39.1	
2004	135.2	7.1	0.8	-	0.0	6.3	0.1	76.0	11.6	64.4	52.1	-	-	39.6	
2005	135.6	7.1	0.8	-	0.0	6.2	0.1	76.3	10.5	65.7	52.2	-	-	40.1	
2006	136.9	7.0	0.8	-	0.0	6.2	0.1	77.2	10.1	67.1	52.7	-	-	40.7	
2007	137.9	6.9	0.8	-	0.0	6.1	0.1	77.9	9.7	68.2	53.1	-	-	41.1	
2008	137.6	6.9	0.8	-	0.0	6.0	0.2	77.6	9.0	68.6	53.1	-	-	41.7	
2009	138.4	6.9	0.8	-	0.0	6.0	0.2	78.1	8.7	69.5	53.4	-	-	42.1	
2010	138.1	6.8	0.8	-	0.0	5.9	0.2	78.0	8.3	69.7	53.4	-	-	42.2	
2011	138	6.7	0.8	-	0.0	5.9	0.3	77.9	7.8	70.1	53.3	-	-	42.9	
2012	139	6.7	0.8	-	0.0	5.9	0.3	78.5	7.5	71.0	53.7	-	-	43.8	
2013	139.6	6.7	0.8	-	0.0	5.9	0.4	79.0	7.3	71.7	54.0	-	-	44.8	
2014	139.7	6.7	0.8	-	0.0	5.8	0.4	79.1	6.6	72.5	54.0	-	-	45.5	
2015	140.2	6.7	0.8	-	0.0	5.8	0.4	79.5	6.3	73.2	54.1	-	-	45.9	
2016	140.9	6.7	0.8	-	-	5.8	0.4	80.0	6.0	74.0	54.3	-	-	46.2	
2017	140.9	6.6	0.8	-	-	5.8	0.4	80.1	5.7	74.4	54.1	-	-	46.7	
2018	141.6	6.6	0.8	-	-	5.8	0.5	80.8	5.5	75.3	54.3	-	-	47.1	
2019	142.2	6.6	0.8	-	-	5.7	0.5	81.3	5.3	76.1	54.3	-	-	47.7	

Note :

1. Infectious Disease Hospitals were abolished in April 1999.
2. Besides pharmacies, there are drug sellers with first-class license and with second-class license as pharmaceutical sales business.
3. The number of pharmacies in FY2010 does not include municipalities in Miyagi prefecture and some Fukushima prefectures due to the impact of the Great East Japan Earthquake.
4. Comprehensive Hospitals (re-sum) was removed due to no update, and added Regional Medical Care Support Hospitals (re-sum).

Source :

Hospitals: Ministry of Health, Labour and Welfare, Medical Care Facility Survey, Hospital Report
<https://www.mhlw.go.jp/toukei/list/79-1a.html>

Pharmacies: Ministry of Health, Labour and Welfare, Hygiene Administration Report in Japan
<https://www.mhlw.go.jp/toukei/list/36-19a.html>

Number of Beds in Medical Care Facilities (Japan)

B-3-2

Year	Medical Care Facilities								General Practitioners	Convalescent Ward (re-sum)	Dental Clinics	Total
	Hospitals	Psychiatric Care	Infection Care	Tuberculosis Care	Convalescent Ward	General Hospitals	former 'Other Facilities'					
Number of Beds												
1980	1,147,555	308,554	18,218	84,905	-	-	907,729	287,835	-	241	1,435,631	
1990	1,676,803	359,037	12,199	42,210	-	-	1,263,307	272,456	-	234	1,949,493	
2000	1,647,253	358,153	2,396	22,631	-	-	1,264,073	216,755	22,786	170	1,864,178	
2001	1,646,797	357,385	2,033	20,847	33,139	55,310	1,178,083	209,544	23,684	153	1,856,494	
2002	1,642,593	355,966	1,854	17,558	113,534	249,858	903,823	196,596	24,880	187	1,839,376	
2003	1,632,141	354,448	1,773	14,507	342,343	919,070	-	187,894	24,840	177	1,820,212	
2004	1,631,553	354,927	1,690	13,293	349,450	912,193	-	181,001	24,373	168	1,812,722	
2005	1,631,473	354,296	1,799	11,949	359,230	904,199	-	167,000	24,681	164	1,798,637	
2006	1,626,589	352,437	1,779	11,129	350,230	911,014	-	159,898	21,584	162	1,786,649	
2007	1,620,173	351,188	1,809	10,542	343,400	913,234	-	155,143	18,993	165	1,775,481	
2008	1,609,403	349,321	1,785	9,502	339,358	909,437	-	146,568	17,519	144	1,756,115	
2009	1,601,476	348,121	1,757	8,924	336,273	906,401	-	141,817	16,476	122	1,743,415	
2010	1,593,354	346,715	1,788	8,244	332,986	903,621	-	136,861	15,078	124	1,730,339	
2011	1,583,073	344,047	1,793	7,681	330,167	899,385	-	129,366	14,150	100	1,712,539	
2012	1,578,254	342,194	1,798	7,208	328,888	898,166	-	125,599	13,308	97	1,703,950	
2013	1,573,772	339,780	1,815	6,602	328,195	897,380	-	121,342	12,473	96	1,695,210	
2014	1,568,261	338,174	1,778	5,949	328,144	894,216	-	112,364	11,410	87	1,680,712	
2015	1,565,968	336,282	1,814	5,496	328,406	893,970	-	107,626	10,657	75	1,673,669	
2016	1,561,005	334,258	1,841	5,347	328,161	891,398	-	103,451	9,906	69	1,664,525	
2017	1,554,879	331,700	1,876	5,210	325,228	890,865	-	98,355	9,069	69	1,653,303	
2018	1,546,554	329,692	1,882	4,762	319,506	890,712	-	94,853	8,509	61	1,641,468	
2019	1,529,215	326,666	1,888	4,370	308,444	887,847	-	90,825	7,882	57	1,620,097	
Number of Beds per 100,000 Population												
1980	1,127.2	263.6	15.6	72.5	-	-	775.5	245.9	-	0.2	1,373.3	
1990	1,356.5	290.5	9.9	34.1	-	-	1,022.0	220.4	-	0.2	1,577.1	
2000	1,297.8	282.2	1.9	17.8	-	-	995.9	170.8	18.0	0.1	1,468.7	
2001	1,293.7	280.8	1.6	16.4	26.0	43.5	-	164.6	18.6	0.1	1,458.5	
2002	1,289.0	279.3	1.5	13.8	89.1	196.1	-	154.3	19.5	0.1	1,443.4	
2003	1,278.9	277.7	1.4	11.4	268.3	720.2	-	147.2	19.5	0.1	1,426.3	
2004	1,277.8	278.0	1.3	10.4	273.7	714.4	-	141.8	19.1	0.1	1,419.8	
2005	1,276.9	277.3	1.4	9.4	281.2	707.7	-	130.7	19.3	0.1	1,407.7	
2006	1,273.1	275.8	1.4	8.7	274.1	713.0	-	125.1	16.9	0.1	1,398.3	
2007	1,268.0	274.9	1.4	8.3	268.8	714.7	-	121.4	14.9	0.1	1,389.6	
2008	1,260.4	273.6	1.4	7.4	265.8	712.2	-	114.8	13.7	0.1	1,375.3	
2009	1,256.0	273.0	1.4	7.0	263.7	710.8	-	111.2	12.9	0.1	1,367.3	
2010	1,244.3	270.8	1.4	6.4	260.0	705.6	-	106.9	11.8	0.1	1,351.2	
2011	1,238.7	269.2	1.4	6.0	258.3	703.7	-	101.2	11.1	0.1	1,340.0	
2012	1,237.7	268.4	1.4	5.7	257.9	704.4	-	98.5	10.4	0.1	1,336.3	
2013	1,236.3	266.9	1.4	5.2	257.8	704.9	-	95.3	9.8	0.1	1,331.7	
2014	1,234.0	266.1	1.4	4.7	258.2	703.6	-	88.4	9.0	0.1	1,335.9	
2015	1,232.1	264.6	1.4	4.3	258.4	703.4	-	84.7	8.4	0.1	1,316.9	
2016	1,229.8	263.3	1.5	4.2	258.5	702.3	-	81.5	7.8	0.1	1,311.3	
2017	1,227.2	261.8	1.5	4.1	256.7	703.1	-	77.6	7.2	0.1	1,304.8	
2018	1,223.1	260.7	1.5	3.8	252.7	704.4	-	75.0	6.7	0.0	1,298.2	
2019	1,212.1	258.9	1.5	3.5	244.5	703.7	-	72.0	6.2	0.0	1,284.1	

Source : Ministry of Health, Labour and Welfare, Medical Care Facility Survey, Hospital Report
<https://www.mhlw.go.jp/toukei/list/79-1a.html>

Number of Medical Care Personnel (Japan)

B-3-3

Fiscal Year	Physicians*1	Dentists*1	Nurses*2	Pharmacists*1
Total Number				
1970	118,990	37,859	273,572	79,393
1980	156,235	53,602	487,169	116,056
1986	191,346	66,797	639,936	135,990
1988	201,658	70,572	694,999	143,429
1990	211,797	74,028	745,301	150,627
1992	219,704	77,416	795,810	162,021
1994	230,519	81,055	862,013	176,871
1996	240,908	85,518	928,896	194,300
1998	248,611	88,061	985,821	205,953
2000	255,792	90,857	1,042,468	217,477
2002	262,687	92,874	1,097,326	229,744
2004	270,371	95,197	1,146,181	241,369
2006	277,927	97,198	1,194,121	252,533
2008	286,699	99,426	1,252,224	267,751
2010	295,049	101,576	1,320,873	276,517
2012	303,268	102,551	1,373,521	280,052
2014	311,205	103,972	1,426,932	288,151
2016	319,480	104,533	1,472,508	301,323
2018	327,210	104,908	1,523,085	311,289
Number per 100,000 Population				
1970	114	36	261	76
1980	134	46	416	99
1986	157	55	526	112
1988	164	58	566	117
1990	171	60	603	122
1992	177	62	639	130
1994	184	65	689	142
1996	191	68	738	154
1998	197	70	779	164
2000	202	72	821	171
2002	206	73	861	180
2004	212	75	898	189
2006	218	76	935	198
2008	225	78	981	210
2010	230	79	1,032	216
2012	238	80	1,077	220
2014	245	82	1,123	227
2016	252	82	1,160	237
2018	259	83	1,205	246

Note :

*1 : Number of licensed specialists.

*2 : Number of actual workers including nurses and assistant nurses.

Source :

Ministry of Health, Labour and Welfare, Report on Public Health Administration and Services

<https://www.mhlw.go.jp/toukei/list/36-19a.html>

Ministry of Health, Labour and Welfare, Report on Survey of Physicians, Dentists and Pharmacists

<https://www.mhlw.go.jp/toukei/list/33-20.html>

Appendix

C1 Exchange Rates104

C2 List of abbreviated Names of JPMA member Companies105

Exchange Rates

Per US Dollar (Period average: Year)

Country	Currency	Currency Abbreviation	Year																						
			1990	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Australia	Australian Dollar	AUD	1.28	1.35	1.72	1.93	1.84	1.53	1.36	1.31	1.33	1.20	1.19	1.28	1.09	0.97	0.97	1.04	1.11	1.33	1.35	1.31	1.34	1.44	1.45
Canada	Canadian Dollar	CAD	1.17	1.37	1.49	1.55	1.57	1.40	1.30	1.21	1.13	1.07	1.07	1.14	1.03	0.99	1.00	1.03	1.11	1.28	1.33	1.30	1.30	1.33	1.34
China	Yuan	CNY	-	8.35	8.28	8.28	8.28	8.28	8.28	8.19	7.97	7.61	6.95	6.83	6.77	6.46	6.31	6.20	6.14	6.23	6.64	6.76	6.62	6.91	6.90
Denmark	Danish Krone	DKK	6.19	5.60	8.08	8.32	7.90	6.59	5.99	6.00	5.95	5.44	5.10	5.36	5.62	5.37	5.79	5.62	5.61	6.73	6.73	6.60	6.32	6.67	6.54
EU	Euro	EUR	1.27	1.31																					
Austria	Schilling	ATS	11.37	10.08																					
Belgium	Belgian Franc	BEF	33.42	29.48																					
France	Franc	FRF	5.45	4.99																					
Germany	Deutsche Mark	DEM	1.62	1.43	1.08	1.12	1.06	0.89	0.81	0.80	0.80	0.73	0.68	0.72	0.76	0.72	0.78	0.75	0.75	0.90	0.90	0.89	0.85	0.89	0.88
Italy	Italian Lira	ITL	1,198.10	1,629.60																					
NetherLands	Guilder	NLG	1.82	1.61																					
Portugal	Portuguese Escudo	PTE	142.55	149.97																					
Spain	Spanish Peseta	ESP	101.93	124.69																					
Japan	Yen	JPY	144.79	94.06	107.77	121.53	125.39	115.93	108.19	110.22	116.30	117.75	103.36	93.57	87.78	79.81	79.79	97.60	105.95	121.04	108.79	112.17	110.42	109.01	106.77
Korea	Korean Won	KRW	716.40	771.27	1,130.96	1,290.99	1,251.09	1,191.61	1,145.30	1,024.12	954.80	929.26	1,102.05	1,276.90	1,156.10	1,108.30	1,126.50	1,094.90	1,053.00	1,131.20	1,160.40	1,130.42	1,100.50	1,165.36	1,180.27
Sweden	Swedish Krone	SEK	5.92	7.13	9.16	10.33	9.74	8.09	7.35	7.47	7.38	6.76	6.59	7.65	7.21	6.49	6.78	6.51	6.86	8.43	8.56	8.55	8.69	9.46	9.21
Switzerland	Swiss franc	CHF	1.39	1.18	1.69	1.69	1.56	1.35	1.24	1.25	1.25	1.20	1.08	1.09	1.04	0.89	0.94	0.93	0.92	0.96	0.99	0.99	0.98	0.99	0.94
United Kingdom	Pound Sterling	GBP	0.56	0.63	0.66	0.69	0.67	0.61	0.55	0.55	0.54	0.50	0.54	0.64	0.65	0.62	0.63	0.64	0.61	0.66	0.74	0.78	0.75	0.78	0.78
United States	US Dollar	USD	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Note:

Currency unit of EU : The euro has been used in Austria, Belgium, France, Germany, Italy, Netherlands, Portugal and Spain since 2000.

Source : International Monetary Fund, International Financial Statistics

List of abbreviated Names of JPMA member Companies

(as of Jan. 27th, 2022)

Abbreviated Name	Official Name
AbbVie	AbbVie GK
Alfresa Pharma	Alfresa Pharma Corporation
Amgen	Amgen K.K.
Asahi Kasei Pharma	ASAHI KASEI PHARMA CORPORATION
ASKA Pharma.	ASKA Pharmaceutical Co., Ltd.
Astellas	ASTELLAS PHARMA INC.
AstraZeneca	AstraZeneca K.K.
AYUMI Pharma.	AYUMI Pharmaceutical Corp.
Bayer	BAYER YAKUHHN, LTD.
Biken	THE RESEARCH FOUNDATION FOR MICROBIAL DISEASES OF OSAKA UNIVERSITY
Biogen	Biogen Japan Ltd.
Boehringer Ingelheim	NIPPON BOEHRINGER INGELHEIM CO., LTD.
Bristol-Myers Squibb	Bristol-Myers Squibb K.K.
Chugai	CHUGAI PHARMACEUTICAL CO., LTD.
Daiichi Sankyo	DAIICHI SANKYO CO., LTD.
EA Pharma	EA Pharma Co., Ltd.
Eisai	Eisai Co., Ltd.
Eli Lilly	ELI LILLY JAPAN K.K.
FUJIFILM Toyama Chemical	FUJIFILM Toyama Chemical Co., Ltd.
Fujimoto Pharma.	FUJIMOTO PHARMACEUTICAL CORP.
Fuso Pharma.	FUSO PHARMACEUTICAL INDUSTRIES, LTD.
GlaxoSmithKline	GlaxoSmithKline K.K.
Hisamitsu Pharma.	Hisamitsu Pharmaceutical Co.,Inc
Janssen	JANSSEN PHARMACEUTICAL K.K.
JCR Pharma	JCR Pharmaceuticals Co., Ltd.
Kaken Pharma.	KAKEN PHARMACEUTICAL CO., LTD.
Kissei Pharma.	KISSEI PHARMACEUTICAL CO., LTD.
KM Biologics	KM Biologics Co.,Ltd.
Kowa	Kowa Company, Ltd.
Kracie Pharma	Kracie Pharma,Ltd.
Kyorin Pharma.	KYORIN Pharmaceutical Co.,Ltd.
Kyoto Pharma.	KYOTO PHARMACEUTICAL INDUSTRIES, LTD.
Kyowa Kirin	Kyowa Kirin Co., Ltd.
Maruho	MARUHO CO., LTD.
Maruishi Pharma.	MARUISHI PHARMACEUTICAL CO., LTD.
Meiji Seika Pharma	Meiji Seika Pharma Co., Ltd.
Merck Biopharma	Merck Biopharma Co., Ltd.
Minophagen Pharma.	MINOPHAGEN PHARMACEUTICAL CO., LTD.
Mitsubishi Tanabe	MITSUBISHI TANABE PHARMA CORPORATION
Mochida Pharma.	MOCHIDA PHARMACEUTICAL CO., LTD.

Abbreviated Name	Official Name
MSD	MSD K.K.
Mylan	Mylan EPD G.K.
Nihon Pharma.	NIHON PHARMACEUTICAL CO., LTD.
Nippon Chemiphar	NIPPON CHEMIPHAR CO., LTD.
Nippon Kayaku	NIPPON KAYAKU CO., LTD.
Nippon Shinyaku	NIPPON SHINYAKU Co., Ltd.
Nippon Zoki Pharma.	NIPPON ZOKI PHARMACEUTICAL CO., LTD.
Novartis	NOVARTIS PHARMA K.K.
Novo Nordisk	NOVO NORDISK PHARMA LTD.
Ono Pharma.	ONO PHARMACEUTICAL CO., LTD.
Otsuka Pharma.	OTSUKA PHARMACEUTICAL Co., Ltd.
Pfizer	PFIZER JAPAN INC.
Sanofi	Sanofi K.K.
Santen Pharma.	SANTEN PHARMACEUTICAL CO., LTD.
Sanwa Kagaku	SANWA KAGAKU KENKYUSHO CO., LTD.
Seikagaku	SEIKAGAKU CORPORATION
Senju Pharma.	SENJU PHARMACEUTICAL CO., LTD.
Shionogi	SHIONOGI & CO., LTD.
Sumitomo Dainippon	SUMITOMO DAINIPPON PHARMA CO., LTD.
Sun Pharma	Sun Pharma Japan Ltd.
Taiho Pharma.	TAIHO PHARMACEUTICAL CO., LTD.
Taisho Pharma.	TAISHO PHARMACEUTICAL CO., LTD.
Takeda	TAKEDA PHARMACEUTICAL COMPANY LIMITED
Teijin Pharma	TEIJIN PHARMA LIMITED
Teikoku Seiyaku	TEIKOKU SEIYAKU CO., LTD.
Toa Eiyo	TOA EIYO LTD.
Toray	Toray Industries, Inc.
Torii Pharma.	TORII PHARMACEUTICAL CO., LTD.
Tsumura	TSUMURA & Co.
UCB	UCB JAPAN CO., LTD.
Wakamoto Pharma.	WAKAMOTO PHARMACEUTICAL CO., LTD.
Yakult	YAKULT HONSHA CO., LTD.
Zeria Pharma.	ZERIA PHARMACEUTICAL CO., LTD.

