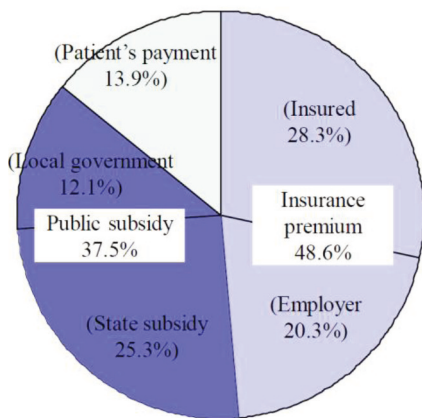


Appendix 1: Proportion of the burden of national medical expenses in Japan (by resource), fiscal year 2009. Reproduced from "Health Insurance, An Outline of the Japanese Medical System" (Japanese Ministry of Health, Labour and Welfare; 2015).

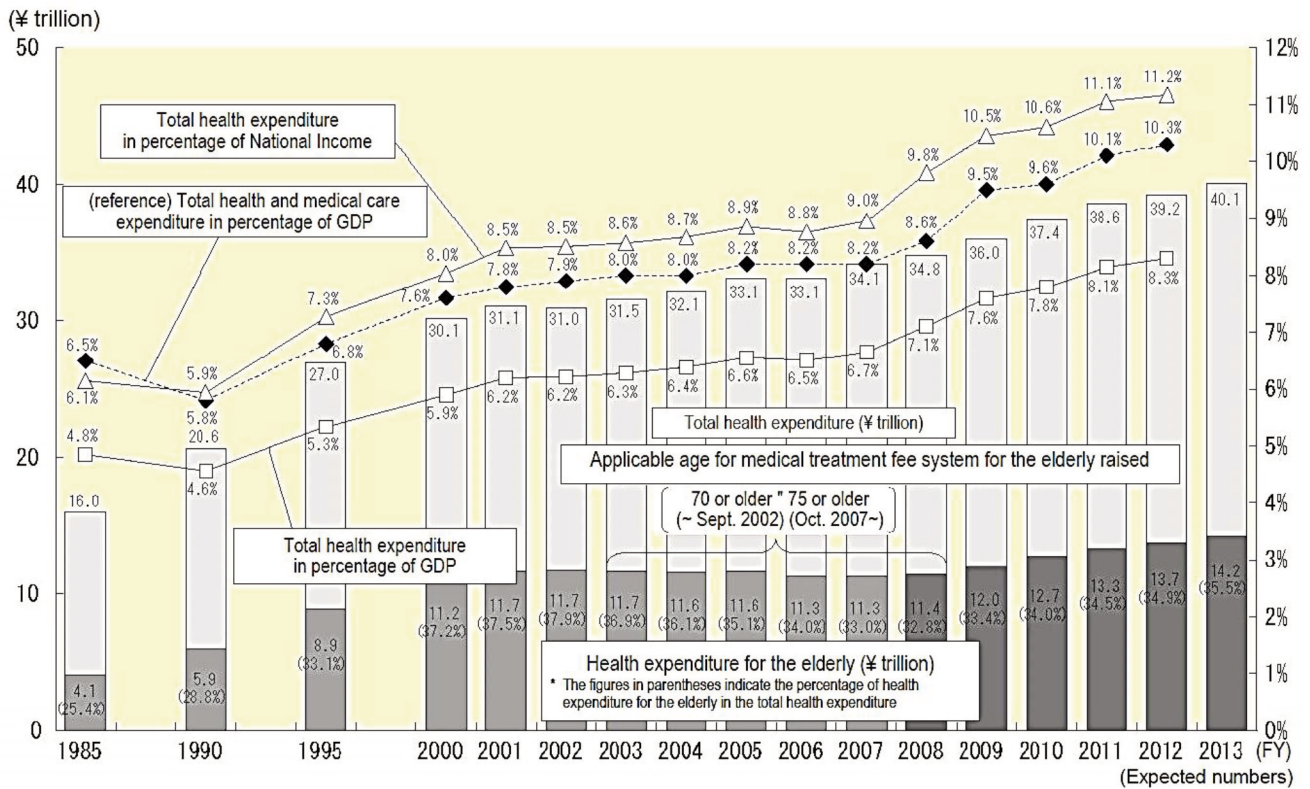


Appendix 2: Comparison of each insurer. Reproduced from "Health Insurance, An Outline of the Japanese Medical System" (Japanese Ministry of Health, Labour and Welfare; 2015).

	Municipality controlled National Health Insurance	National Health Insurance society	Public-corporation-run health insurance	Society-managed, employment-based health insurance	Mutual Aid Association	Medical system for the elderly aged 75 and over
Number of insurers (End of March 2011)	1,723	165	1	1,458	85	47
Number of members (End of March 2011)	35.49 mil. (20.37 mil. Households)	3.27 mil.	34.85 mil. (The insured 19.58 mil. Dependents 15.27 mil.)	29.61 mil. (The insured 15.57 mil. Dependents 14.03 mil.)	9.20 mil. (The insured 4.53 mil. Dependents 4.67 mil.)	14.34 mil.
Average age of members (FY2010)	49.7	39.0	36.3	34.0	33.4	81.9
Average income (total compensation) (FY2010) (*1)	¥910,000 ¥1,580,000 per household (FY2009)	¥3,470,000 ¥7,430,000 per household (*2) (FY2008)	¥1,370,000 ¥2,420,000 per household (*3)	¥1,960,000 ¥3,720,000 per household (*3)	¥2,290,000 ¥4,670,000 per household (*3)	¥800,000 (FY2010)
Amount used to work out the premiums per member (FY2010)	¥740,000 (*4) ¥1,290,000 per household (FY2009)	- (*5)	¥2,090,000 (*6) ¥3,700,000 per household (*3)	¥2,810,000 (*6) ¥5,330,000 per household (*3)	¥3,190,000 (*6) ¥6,510,000 per household (*3)	¥670,000 (*4) (FY2010)
Healthcare expenses per member (FY2010) (*7)	¥299,000	¥176,000	¥156,000	¥138,000	¥140,000	¥905,000
Average premium per member (FY2010) (*8) <amount including employers' contribution>	¥81,000 ¥142,000 per household	¥126,000	97,000 yen <193,000 yen> (172,000 yen <344,000 yen> per insured person)	93,000 yen <207,000 yen> (177,000 yen <394,000 yen> per insured person)	112,000 yen <224,000 yen> (227,000 yen <455,000 yen> per insured person)	¥63,000
Government subsidies (Fixed rate portion only)	50% of benefits, etc.	42% of benefits, etc. (*9)	16.4% of benefits (*10)	Fixed amount contribution to those associations that are in financial hardship	Nil	Approx. 50% of benefits
Amount of government subsidies (*11) (Average based on FY2012 budget)	3,445.9 billion yen	284.2 billion yen	1,182.2 billion yen	1.6 billion yen	Nil	6,177.4 billion yen

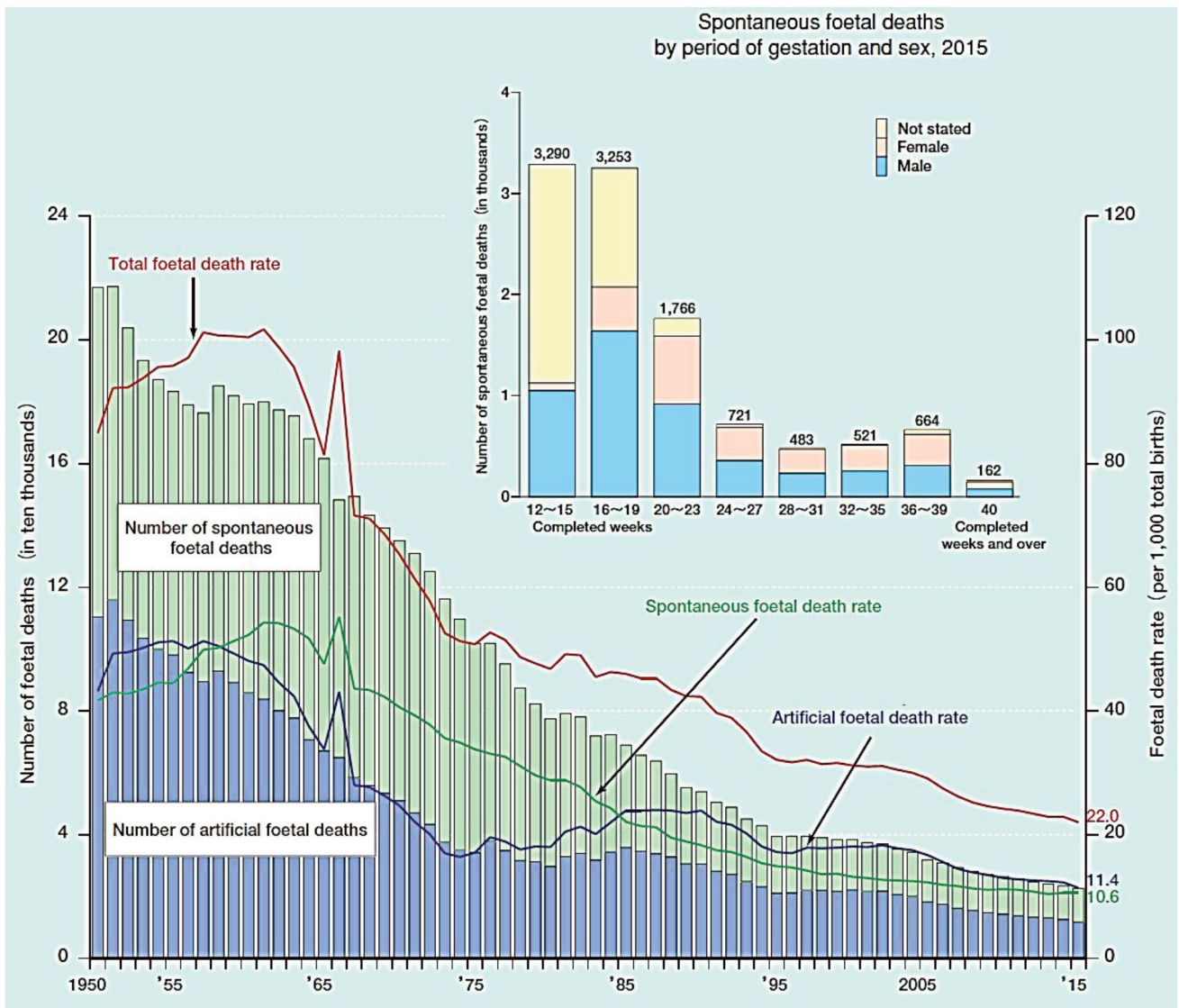
(*1) Means "total income, etc." (an amount worked out by subtracting work-related expenses, salary earners deduction, and public pension deduction and so on from the total earning).
 Under the municipality-managed national health insurance scheme and medical care system for the later-stage elderly people, this is "total income and forestry income" plus "brought-forward deduction in relation to miscellaneous income" and "amount of separate transfer income". The figure is worked out based on, in case of municipality-managed national health insurance scheme, "National Health Insurance Survey" and "Survey of Insured Persons under the Medical Care System for the Later-stage Elderly People" in case of medical care system for the later-stage elderly people.
 The figures for national health insurance association are the data for your reference worked out by adding up the standard taxable income for municipal locality tax (total income after such deductions as basic deduction and dependent family deduction and spouse deduction etc.), basic deduction, and income deduction other than basic deduction (such as dependent family deduction, spouse deduction etc.) (an estimated amount calculated using the figure obtained by dividing the amount of income deduction for each bracket (excluding basic deduction) applicable to "standard taxable income for those who have salary income and business income etc." worked out from "FY2009 survey of the current taxation status etc with respect to municipal locality tax" (conducted by Ministry of Internal Affairs and Communications) by number of tax payers).
 As for Kyokai Kenpo, association-managed health insurance, and mutual aid association, the figure is a reference value worked out by subtracting an amount equivalent to salary income deduction from "an amount to be used to work out the insurance premium per subscriber" (the amount obtained by dividing the total amount of standard remuneration with the number of subscribers).
 (*2) The amount per household is worked out by multiplying the amount per subscriber with average number of person per household.
 (*3) Means an amount per insured person.
 (*4) This is the standard taxable amount (a base to calculate the insurance premiums) worked out by old provisory method. Being a method used to calculate the base on which the insurance premiums of the medical care system for the later-stage elderly people and most municipality-managed national health insurance schemes are worked out, the old provisory method calculates the amount by subtracting basic deduction etc. from the amount of total income (the amount worked out by subtracting work-related expenses, salary earners deduction, and public pension deduction etc. from the total amount of earning).
 (*5) Not included because, with regard to national health insurance association scheme, the calculation method to work out the income and insurance premiums is widely different from one insurer to another. According to the data from 2009 income study, the standard trade-by-trade taxable incomes for municipal locality tax are 6.41 million yen for medical practitioners national health insurance association, 2.21 million yen for dentists national health insurance association, 2.18 million yen for pharmacists national health insurance association, 1.25 million yen for general traders national health insurance association, and 0.70 million yen for building industry related national health insurance association. The average amount of the whole sector, calculated based on the number of insured persons for each association, is worked out to be 2.15 million yen (no income study was conducted in 2010).
 (*6) This is the amount obtained by dividing the whole amount of standard remuneration with the number of subscribers.
 (*7) Figures for healthcare expenditure per subscriber for Kyokai Kenpo and association-managed health insurance scheme are preliminary ones. In addition, figures for mutual aid association are healthcare expenditure assessed by the assessment payment agent.
 (*8) The insurance premiums per subscriber for municipality-managed national health insurance scheme the medical care system for the later-stage elderly people were estimated based on the insurance premiums arranged set out for the year, and, premiums of employee insurance were estimated based on the insurance premiums cited in the final account of expenditures and revenues. The amount of insurance premiums does not include the portion for aged care.
 (*9) Average based on FY2012 budget.
 (*10) The rate of government subsidies for Kyokai Kenpo to June 2010 in the FY2010 budget was 13.0% excluding the contribution to the later-stage elderly people medical care system.
 (*11) State subsidies and grants for the long-term care insurance levy, specified health examination/specified healthcare guidance, etc., are not included.

Appendix 3: Changes in health expenditure. Reproduced from *Annual Health, Labour and Welfare Report 2015* (Japanese Ministry of Health, Labour and Welfare; 2015).



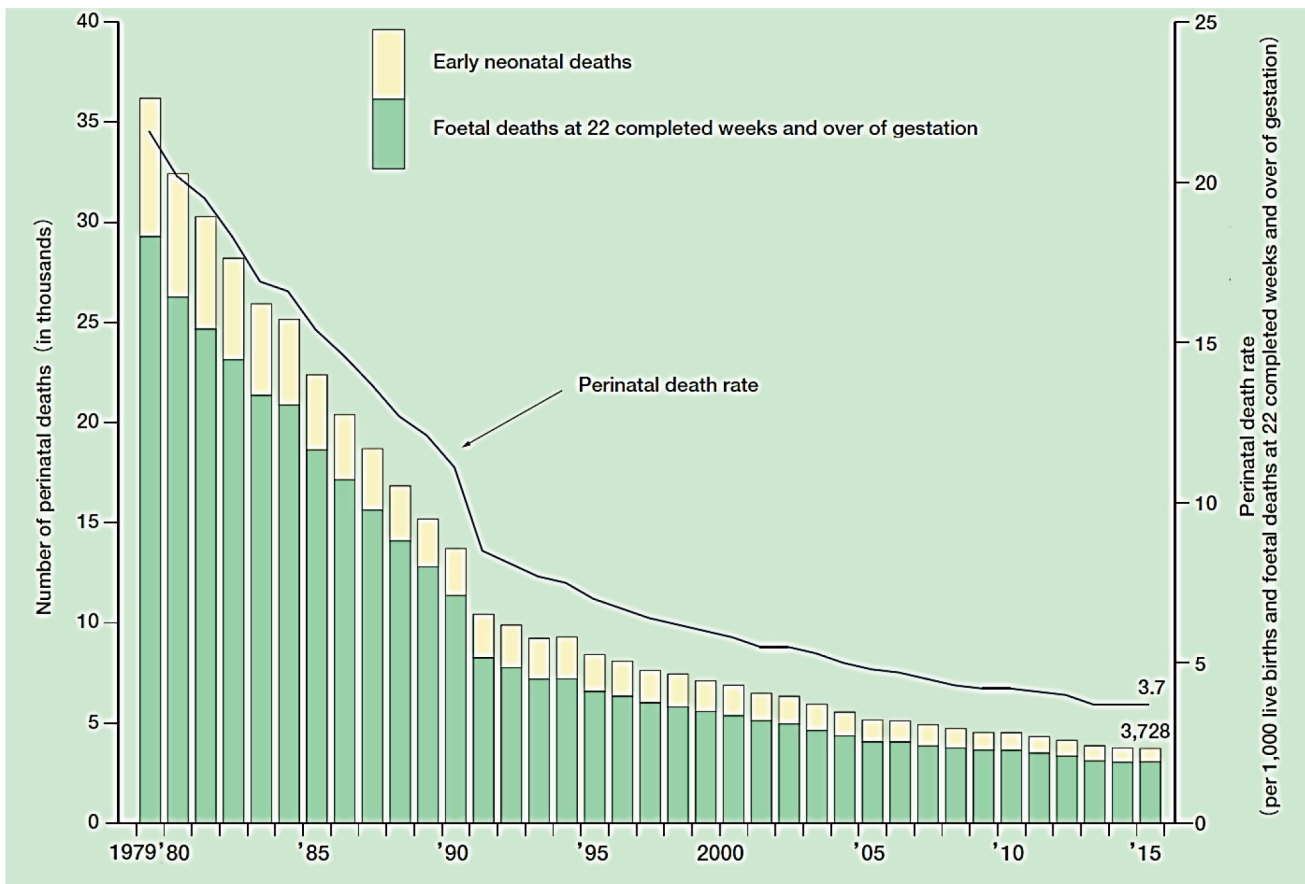
Supplementary material for Nakagawa S, Kume N. Pharmacy practice in Japan. *Can J Hosp Pharm.* 2017;70(3):232-42.

Appendix 4: Trends in fetal deaths and fetal death rates, 1950–2015. Reproduced (with translation) from *Vital Statistics* (Japanese Ministry of Health, Labour and Welfare, Statistics and Information Department; 2015).



Supplementary material for Nakagawa S, Kume N. Pharmacy practice in Japan. *Can J Hosp Pharm.* 2017;70(3):232-42.

Appendix 5: Trends in perinatal deaths and perinatal death rates, 1979–2015. Reproduced (with translation) from *Vital Statistics* (Japanese Ministry of Health, Labour and Welfare, Statistics and Information Department; 2015).



Supplementary material for Nakagawa S, Kume N. Pharmacy practice in Japan. *Can J Hosp Pharm.* 2017;70(3):232-42.

Appendix 6: Trend of life expectancies at birth. Reproduced from “Life Expectancies at Specified Ages” (Japanese Ministry of Health, Labour and Welfare; 2014).

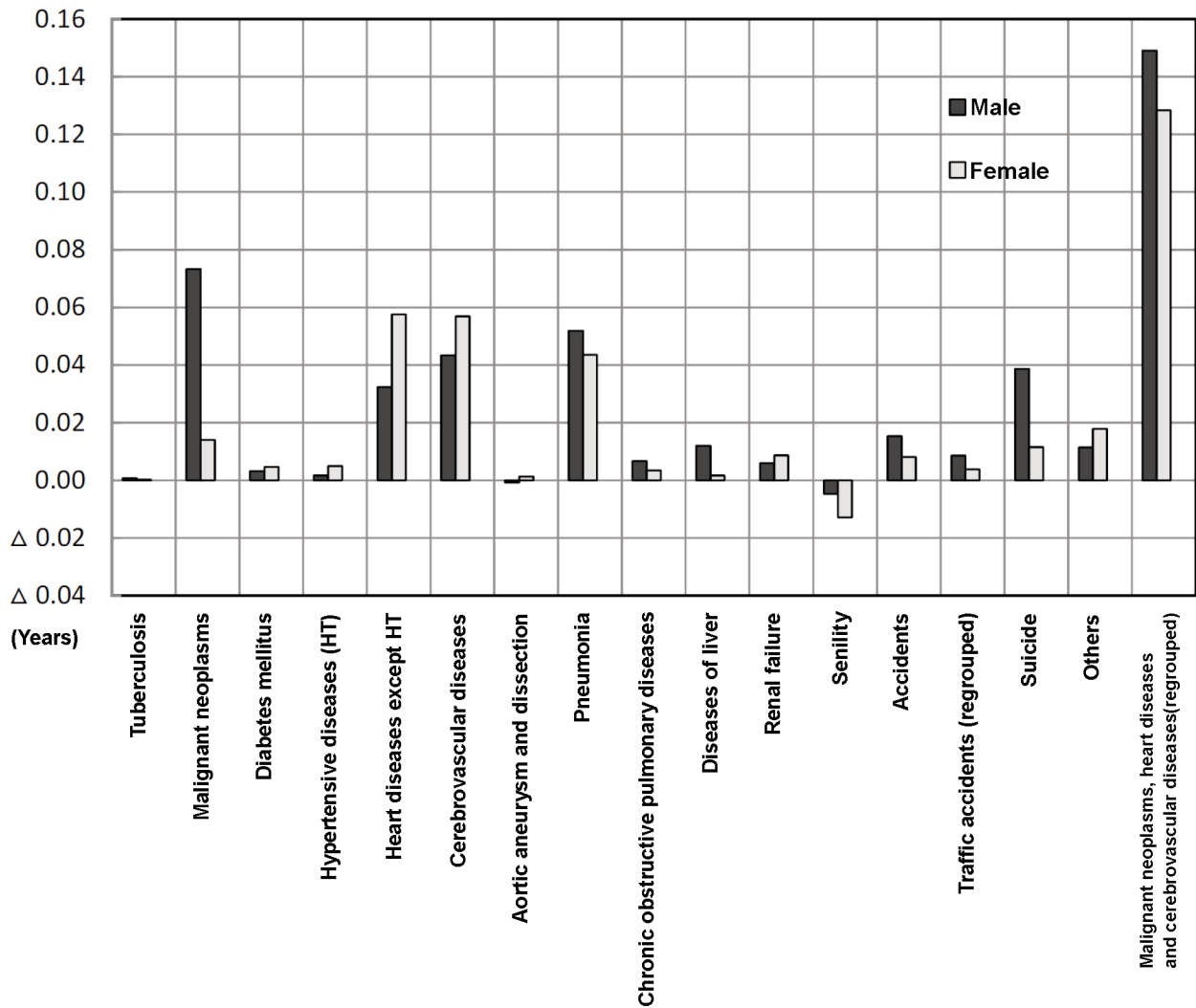
(years)

Year	Male	Female	Difference
1947	50.06	53.96	3.90
1950–1952	59.57	62.97	3.40
1955	63.60	67.75	4.15
1960	65.32	70.19	4.87
1965	67.74	72.92	5.18
1970	69.31	74.66	5.35
1975	71.73	76.89	5.16
1980	73.35	78.76	5.41
1985	74.78	80.48	5.70
1990	75.92	81.90	5.98
1995	76.38	82.85	6.47
2000	77.72	84.60	6.88
2005	78.56	85.52	6.96
2010	79.55	86.30	6.75
2011	79.44	85.90	6.46
2012	79.94	86.41	6.47
2013	80.21	86.61	6.40
2014	80.50	86.83	6.33

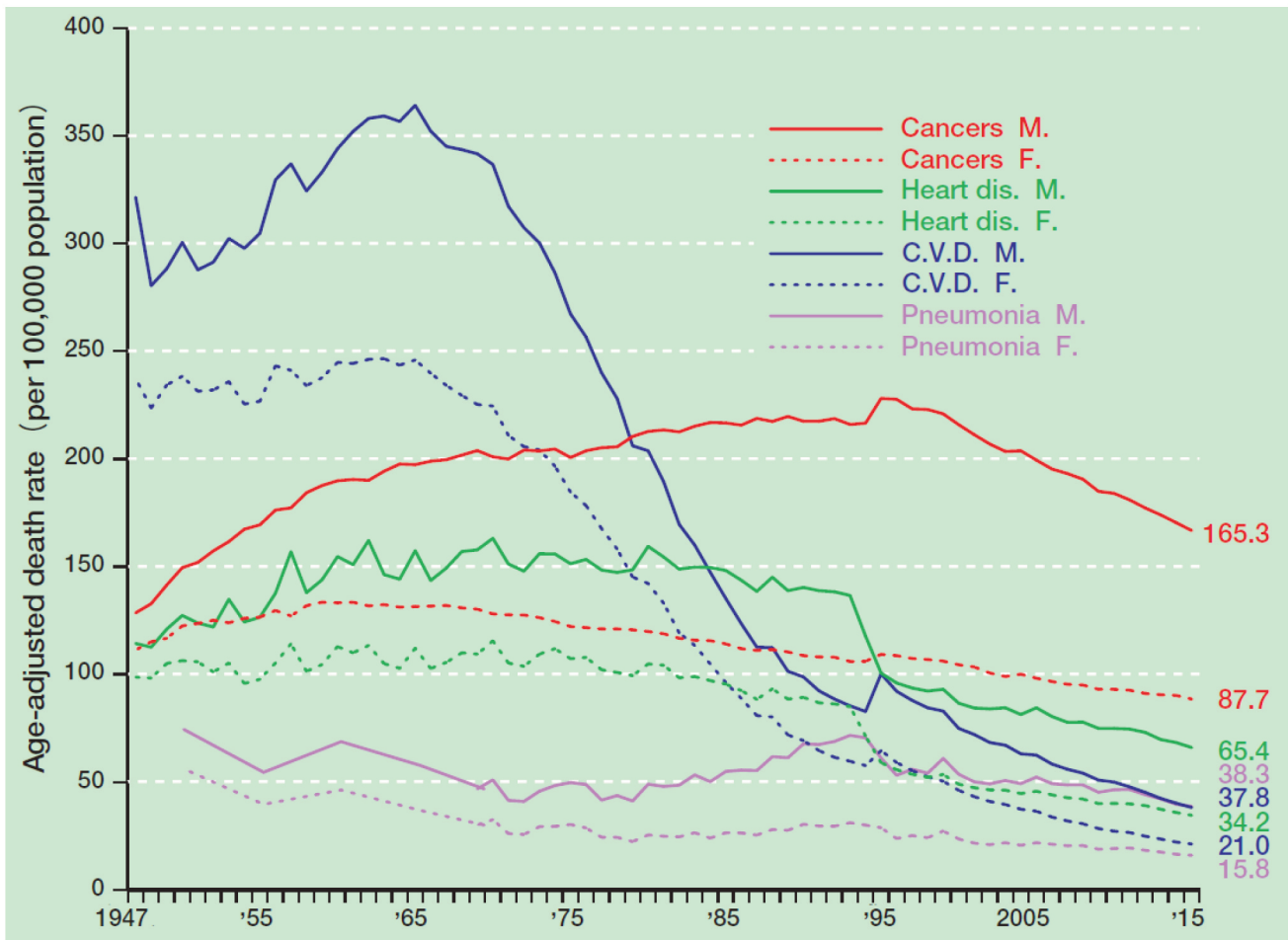
Notes: 1. Data of 1947-2010 were based on complete life tables.

2. Before 1970, data of Okinawa prefecture were not included.

Appendix 7: Contribution of each cause of death to the extension of life expectancies from 2013 to 2014. Reproduced (with translation) from "Life Expectancies at Specified Ages" (Japanese Ministry of Health, Labour and Welfare; 2014).



Appendix 8: Trends in age-adjusted death rates for leading causes of death by males and females, 1947–2015. Reproduced (with translation) from *Vital Statistics* (Japanese Ministry of Health, Labour and Welfare, Statistics and Information Department; 2015).



- 1) Heart dis. ← Heart diseases(excluding hypertensive heart diseases)
- 2) C.V.D. ← Cerebrovascular diseases

Appendix 9: Number of residency training programs by hospital type in 2013*

Hospital Type	No. of Residency Training Programs, 2013
University hospital	13
Prefectural hospital	11
National hospital	3
Municipal hospital	3
Others	5

*Based on data from Hashida (*J Jpn Soc Hosp Pharm.* 2013; 49[1]:39-41).

Appendix 10: Board-certified pharmacists and board-certified pharmacy specialists in Japan

Type of Specialist*	Total No.	Date Established
Board-Certified Pharmacotherapy Specialist†	24 (as of June 16, 2016)	2012
Board-Certified Pharmacist in Oncology Pharmacy‡	989 (as of March 1, 2016)	2007
Board-Certified Oncology Pharmacy Specialist‡	482 (as of June 16, 2016)	2006
Board-Certified Pharmacist in Infection Control‡	882 (as of October 11, 2015)	2008
Board-Certified Infection Control Pharmacy Specialist‡	4253 (as of April 1, 2016)	2006
Board-Certified Pharmacist in Psychiatric Pharmacy‡	196 (as of October 1, 2015)	2008
Board-Certified Psychiatric Pharmacy Specialist‡	46 (as of April 1, 2016)	2009
Board-Certified Pharmacist in Pharmacotherapy during Pregnancy and Lactation‡	119 (as of October 1, 2016)	2008
Board-Certified Pharmacy Specialist in Pharmacotherapy during Pregnancy and Lactation‡	9 (as of October 1, 2016)	2009
Board-Certified Pharmacist in HIV Pharmacy‡	56 (as of October 1, 2015)	2008
Board-Certified HIV Pharmacy Specialist‡	24 (as of April 1, 2016)	2009

*The following board-certified pharmacist specialists are approved by other organizations: Nutrition Support Team Specialist (Japanese Society for Parenteral and Enteral Nutrition), Board Certified Pharmacist in Palliative Pharmacy (Japanese Society for Pharmaceutical Palliative Care and Sciences), Infectious Disease Chemotherapy Pharmacist (Japanese Society of Chemotherapy), Drug Information Specialist (Japanese Society of Drug Informatics), Healthcare Information Technologist (Japan Association for Medical Informatics Healthcare Information Technologist Certification), Drug Safety Specialist Pharmacist (Japanese Society of Drug Safety), Pressure Ulcer Care Pharmacist (Japanese Society of Pressure Ulcers), Certified Pharmacist for Emergency Medicine (Japanese Society for Emergency Medicine), Certified Pharmacist in Pediatric Pharmacotherapy (Japan Society of Developmental Pharmacology and Therapeutics, Japan Pharmacists Education Center), Certified Pharmacist in Kampo Medicine (Japan Pharmacists Education Center), Certified Diabetes Educator of Japan (Certification Board for Diabetes Educators in Japan).

†Source: Japanese Society of Pharmaceutical Health Care and Sciences (Board-Certified Pharmacists and Board-Certified Pharmacy Specialists in Japan; www.jsphcs.jp/hintei/01.php).

‡Source: Japanese Society of Hospital Pharmacists (Board-Certified Pharmacists and Board-Certified Pharmacy Specialists in Japan; www.jsph.or.jp/senmon/senmon.html).

Appendix 11: Numbers of medical professionals. Reproduced from *Annual Health, Labour and Welfare Report 2015* (Japanese Ministry of Health, Labour and Welfare; 2015).

• Doctors	303,268 persons
• Dentists	102,551 persons
• Pharmacists	280,052 persons

Source: "Survey of Physicians, Dentists and Pharmacists 2012",
Statistics and Information Department, Minister's Secretariat, MHLW

• Public health nurses	58,535 persons
• Midwives	36,395 persons
• Nurses	1,103,913 persons
• Assistant nurses	372,804 persons

Source: Health Policy Bureau, MHLW (2013)

• Physical therapists (PT)	61,620.8 persons
• Occupational therapists (OT)	35,427.3 persons
• Orthoptists	6,818.7 persons
• Speech language hearing therapists	11,456.2 persons
• Orthotists	138.0 persons
• Clinical radiologic technologists	49,105.9 persons
• Medical technicians	62,458.5 persons
• Clinical engineers	20,001.0 persons

Source: "Survey of Medical Institutions and Hospital Report 2011",
Statistics and Information Department, Minister's Secretariat, MHLW

* Full-time equivalent numbers

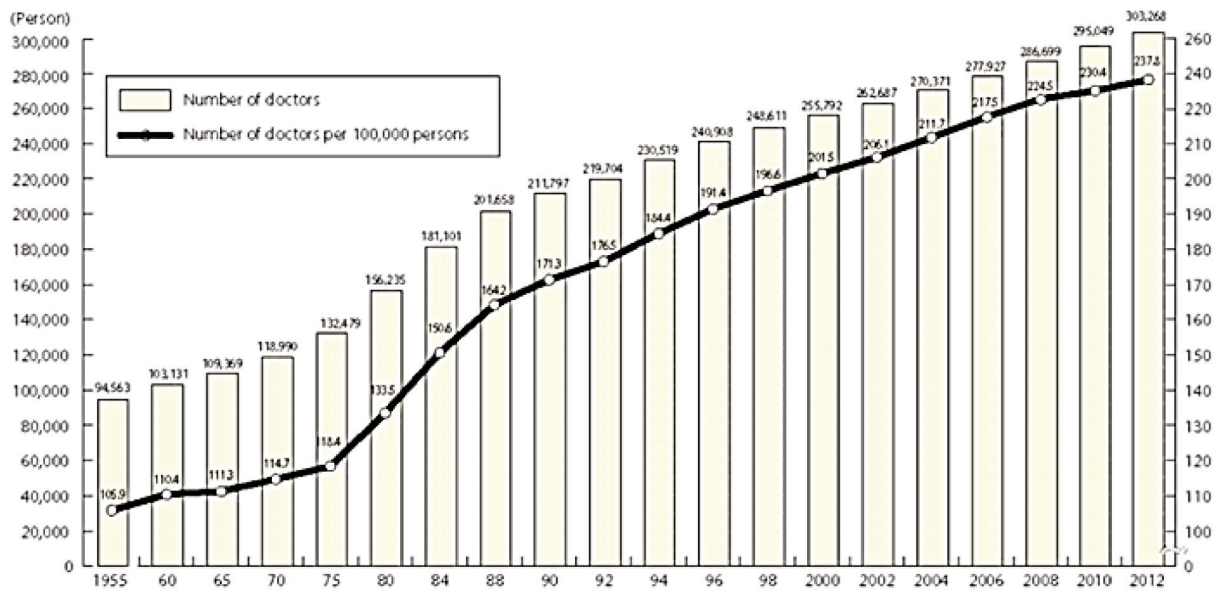
• Dental hygienists	108,123 persons
• Dental technicians	34,613 persons
• Massage and finger pressure therapists	109,309 persons
• Acupuncture therapists	100,881 persons
• Moxibustion therapists	99,118 persons
• Judo therapists	58,573 persons

Source: "Report on Public Health Administration and Services 2012",
Statistics and Information Department, Minister's Secretariat, MHLW

• Emergency medical technicians	37,567 persons
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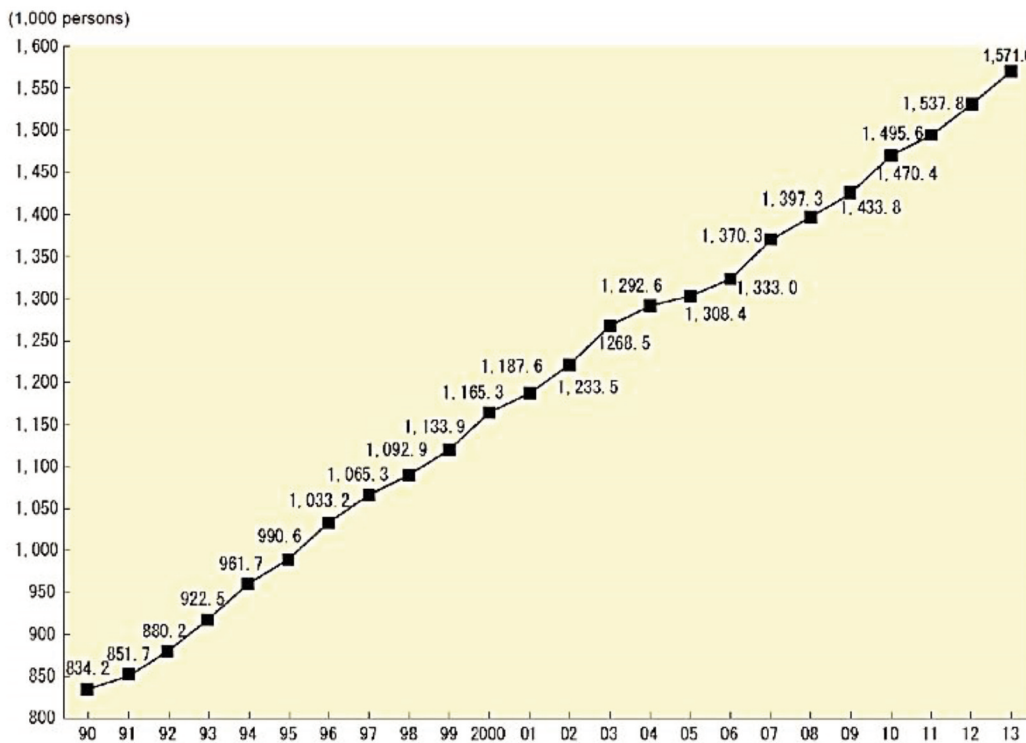
Source: Health Policy Bureau, MHLW (as of December 31, 2009)

Appendix 12: Changes in numbers of doctors. Reproduced from *Annual Health, Labour and Welfare Report 2015* (Japanese Ministry of Health, Labour and Welfare; 2015).



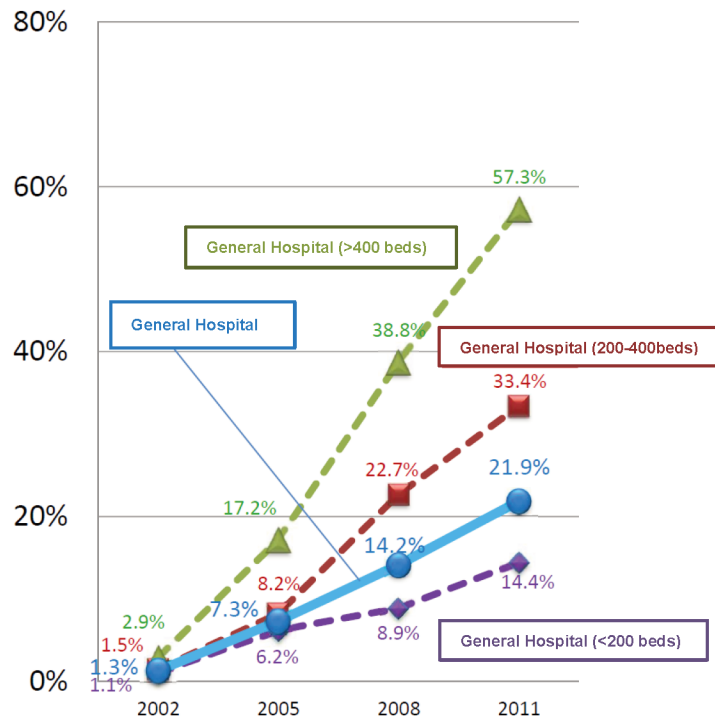
Source: "Survey of Physicians, Dentists and Pharmacists", Statistics and Information Department, Minister's Secretariat, MHLW

Appendix 13: Changes in numbers of nursing personnel. Reproduced from *Annual Health, Labour and Welfare Report 2015* (Japanese Ministry of Health, Labour and Welfare; 2015).



Source: Health Policy Bureau, MHLW

Appendix 14: Changes in the penetration rate of electronic medical chart system. Reproduced (with translation) from "Utilization of the ICT in the Health, Medical and Care Field" (Japanese Ministry of Health, Labour and Welfare; 2015).



Appendix 15: Changes in the penetration rate of electronic medical chart system*

	General Hospital by size of hospital				General Clinics† (0 to 19 beds)
	General Hospital† (20 or more beds)	> 400 beds	200-400 beds	< 200 beds	
2010	14.2% (1092/7714)	38.8% (279/720)	22.7% (313/1380)	8.9% (500/5614)	14.7% (14602/99083)
2013§	21.9% (1620/7410)	57.3% (401/700)	33.4% (440/1317)	14.4% (779/5393)	21.2% (20797/98004)
2016	34.2% (2542/7426)	77.5% (550/710)	50.9% (682/1340)	24.4% (1310/5376)	35.0% (35178/100461)

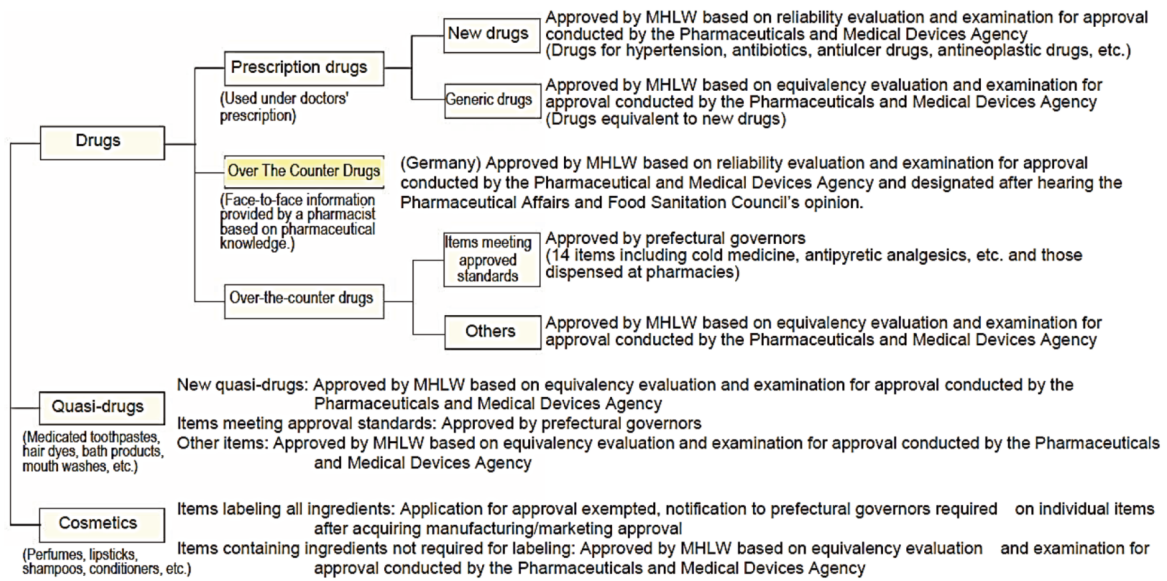
*Reproduced (with translation) from "Current Situation of the Informatization in the Medical Field" (Japanese Ministry of Health, Labour and Welfare; 2015).

†General Hospital excludes psychiatric hospitals (hospitals with psychiatric wards only) and tuberculosis hospitals (with tuberculosis wards only).

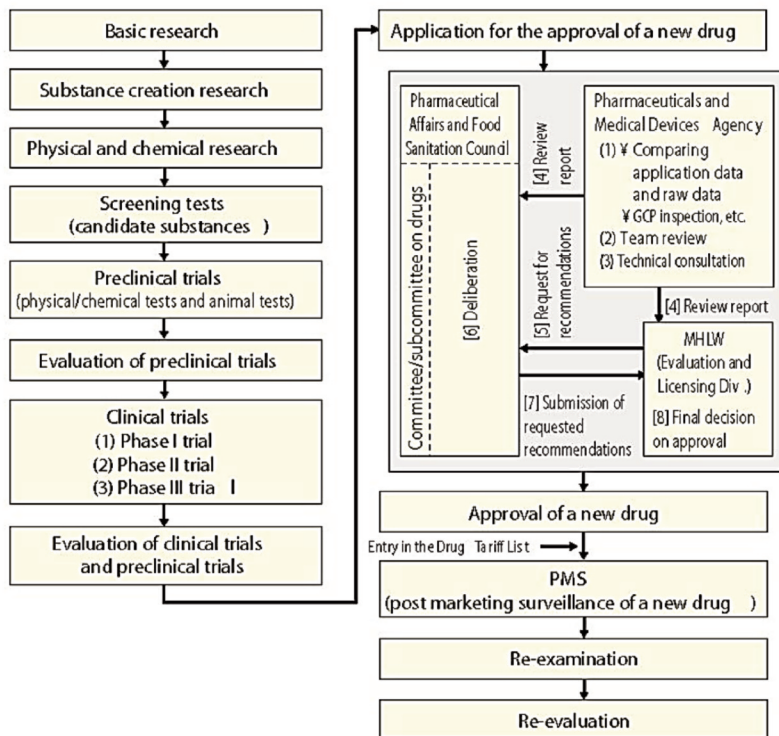
‡General clinic excludes dental clinics.

§Survey in 2013 excludes Ishinomaki and Kesenuma medical districts of Miyagi Prefecture and Fukushima Prefecture due to the Great East Japan Earthquake.

Appendix 16: Classification of examinations for approval of drugs, etc. Reproduced from *Annual Health, Labour and Welfare Report 2015* (Japanese Ministry of Health, Labour and Welfare; 2015).



Appendix 17: Flow of examination for the approval of a new drug. Reproduced from *Annual Health, Labour and Welfare Report 2015* (Japanese Ministry of Health, Labour and Welfare; 2015).



(Note) The trials that are deemed necessary for application for the approval of a new drug can be roughly divided into two categories: preclinical (physical/chemical tests and animal tests) and clinical trials. Clinical trials are conducted on a phased basis from phase I trial (a small number of healthy volunteers), the phase II trial (a small number of patients), and the phase III trial (a large number of patients), as indicated in the chart above.

Appendix 18: Diseases and persons subjected to regular vaccination. Reproduced from *Annual Health, Labour and Welfare Report 2015* (Japanese Ministry of Health, Labour and Welfare; 2015).

Diseases	Persons subjected to vaccination
Diphtheria	1. Those aged 3 months or older but younger than 90 months 2. Those aged 11 years or older but younger than 13 years
Whooping cough	Those aged 3 months or older but younger than 90 months
Acute poliomyelitis	Those aged 3 months or older but younger than 90 months
Measles	1. Those aged 12 months or older but younger than 24 months 2. Those aged 5 years or older but younger than 7 years who are in the period between 1 year before entering elementary school and the date of entering school
Rubella	1. Those aged 12 months or older but younger than 24 months 2. Those aged 5 years or older but younger than 7 years who are in the period between 1 year before entering elementary school and the date of entering school
Japanese encephalitis	1. Those aged 6 months or older but younger than 90 months 2. Those aged 9 years or older but younger than 13 years
Tetanus	1. Those aged 3 months or older but younger than 90 months 2. Those aged 11 years or older but younger than 13 years
Tuberculosis	Those younger than 6 months old
Hib infection	Those aged 2 months or older but younger than 60 months
Streptococcus pneumoniae infection (limited to that in children)	same as above
chickenpox	12 month old infants up to 36 months old infants after birth
Human papillomavirus infection	Females who are in the period between the first day of the fiscal year in which they turn 12 years old and the last day of the fiscal year in which they turn 16 years old
Influenza	1. Those aged 65 years or older 2. Those aged 60 years or older but younger than 65 years suffering chronic severe cardiac/respiratory/renal insufficiencies, etc. 2. People between 60 and 65 suffering from heart, kidney, respiratory insufficiencies, etc.
Pneumococcal infection (only diseases specific to the elderly)	1. The elderly aged 65 2. People between 60 and 65, suffering from heart, kidney, respiratory insufficiencies, etc.

Appendix 19: Shift of patient care to lower cost settings. Reproduced (with translation) from *Vision of Pharmacies for Patients* (Japanese Ministry of Health, Labour and Welfare; 2016).

