

Building Sustainable Careers in Medicine: Gender Equity, Burnout Prevention, Mentorship, and Supportive Work Environments



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Outline

- 1. Why Physician Careers Are Becoming Unsustainable.**
- 2. Gender Inequity in Medical Careers**
- 3. Mechanism of physician burnout**
- 4. How do we cope with Workforce Sustainability?**

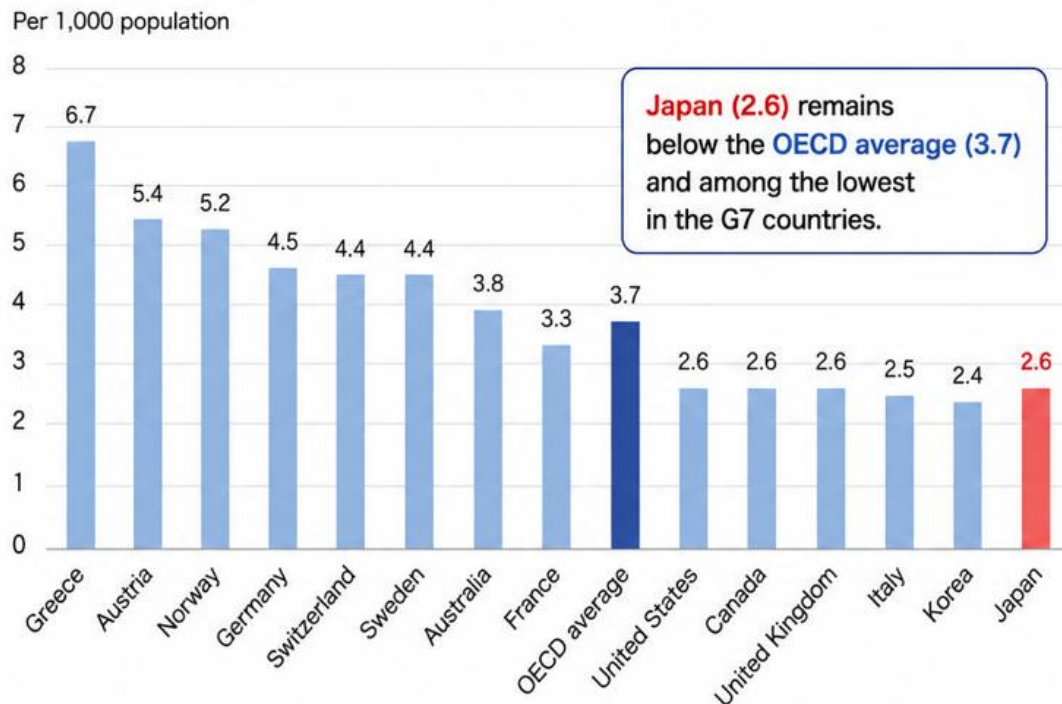
1. Why Physician Careers Are Becoming Unsustainable

WHAT IS THE PROBLEM?

Why Should We Care?

Healthcare systems worldwide are under growing pressure.

Practising physicians per 1,000 population, 2022 (or nearest year)



Source: OECD Health at a Glance 2025
<https://www.oecd.org/health/health-at-a-glance/>



Global workforce shortages

Many countries face an insufficient supply of healthcare professionals.



Aging populations

Population aging increases the need for complex and continuous care.



Increasing healthcare demand

Rising prevalence of chronic diseases and technological advances drive growing demand for healthcare.



Rising burnout

High workload and stress contribute to burnout and threaten workforce sustainability.

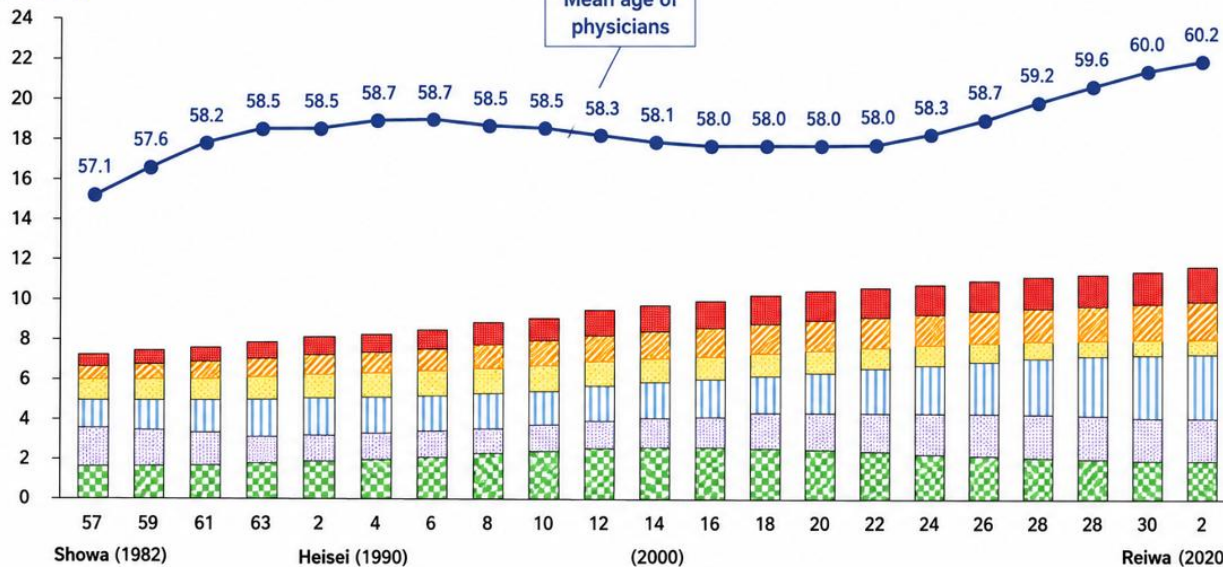
Healthcare systems worldwide are facing a common challenge:
how to maintain a sustainable workforce while demand for healthcare continues to rise.

Aging of Japan's Physician Workforce (1982–2020)

Number of practicing physicians by age group and mean age over time

Number of Practicing Physicians

(x10,000)



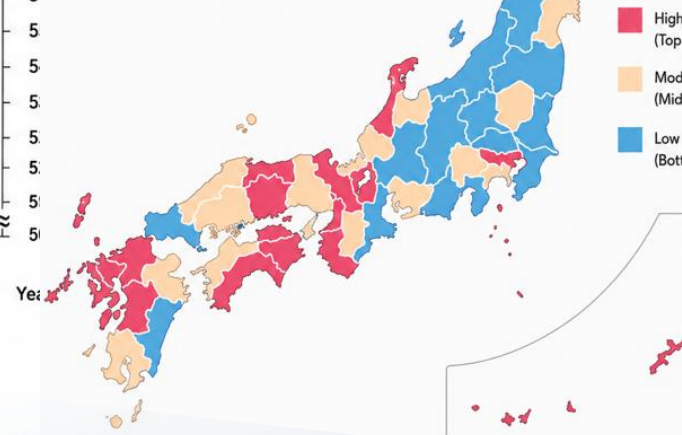
The mean age of practicing physicians increased from 57.1 years in 1982 to 60.2 years in 2020.

Source: Ministry of Health, Labour and Welfare, Japan.

Trends in the Average Age of Physicians, Dentists, and Pharmacists (2020).

Geographic Disparities in Physician Density Across Japan

Prefectures with the Highest Physician Density	Prefectures with the Lowest Physician Density
1 Tokyo	1 Iwate
2 Kyoto	2 Niigata
3 Fukuoka	3 Aomori
4 Okinawa	4 Fukushima
5 Okayama	5 Saitama

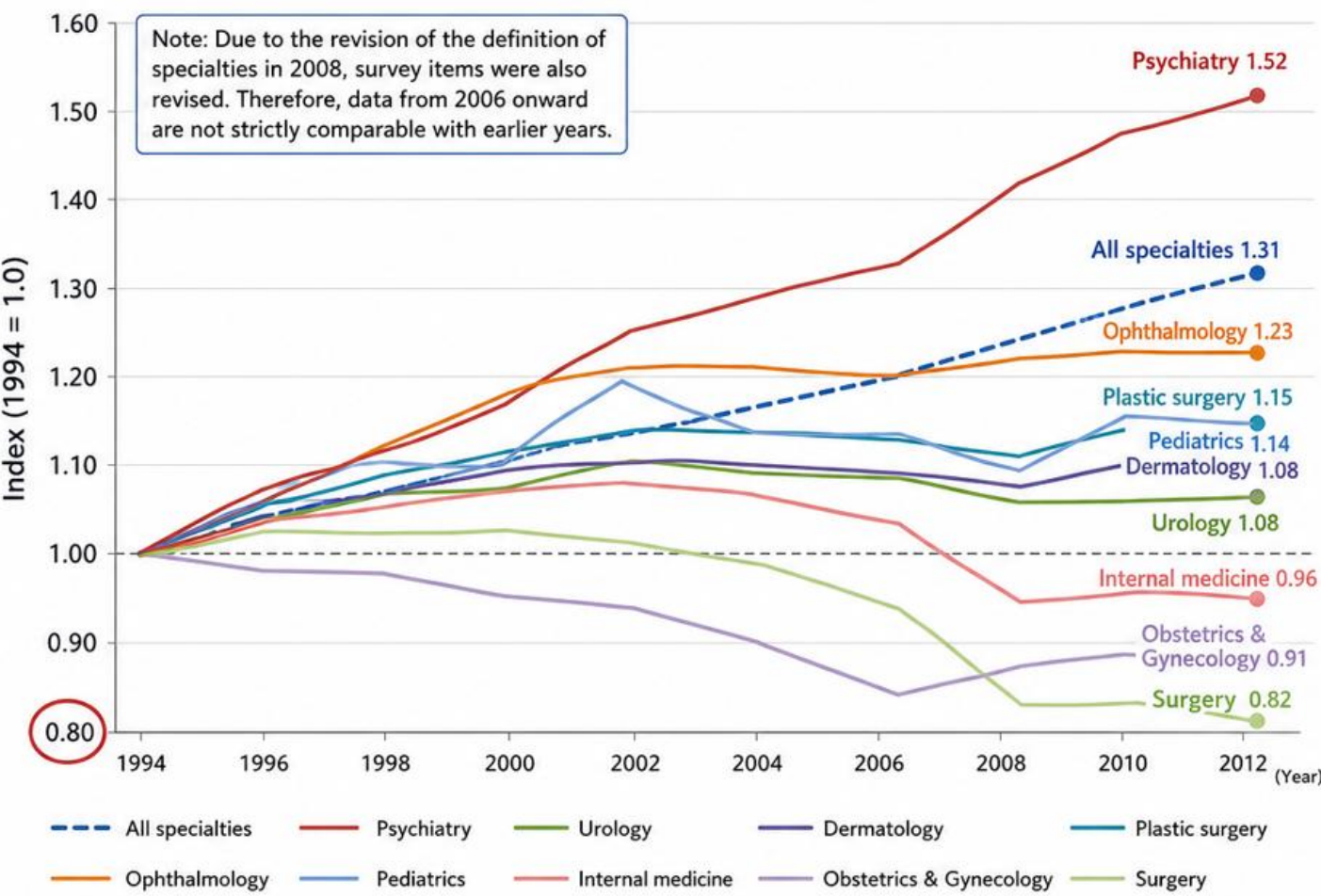


Source: Ministry of Health, Labour and Welfare, Japan. 2020, Physicians per 100,000 population

The Japanese Physician Workforce Crisis

Declining Interest in Surgery Among Physicians in Japan

Trends in the number of physicians working in medical facilities by specialty
(Index: 1994 = 1.0 for each specialty)



Why Young Physicians Are Moving Away from Surgery



Long working hours
Surgeons often work long hours, including weekends and holidays.



Night shifts
Frequent night shifts and on-call duties lead to physical and mental fatigue.



Litigation concerns
The risk of medical litigation and high professional liability cause anxiety.

These factors contribute to declining interest in surgical careers among young physicians.

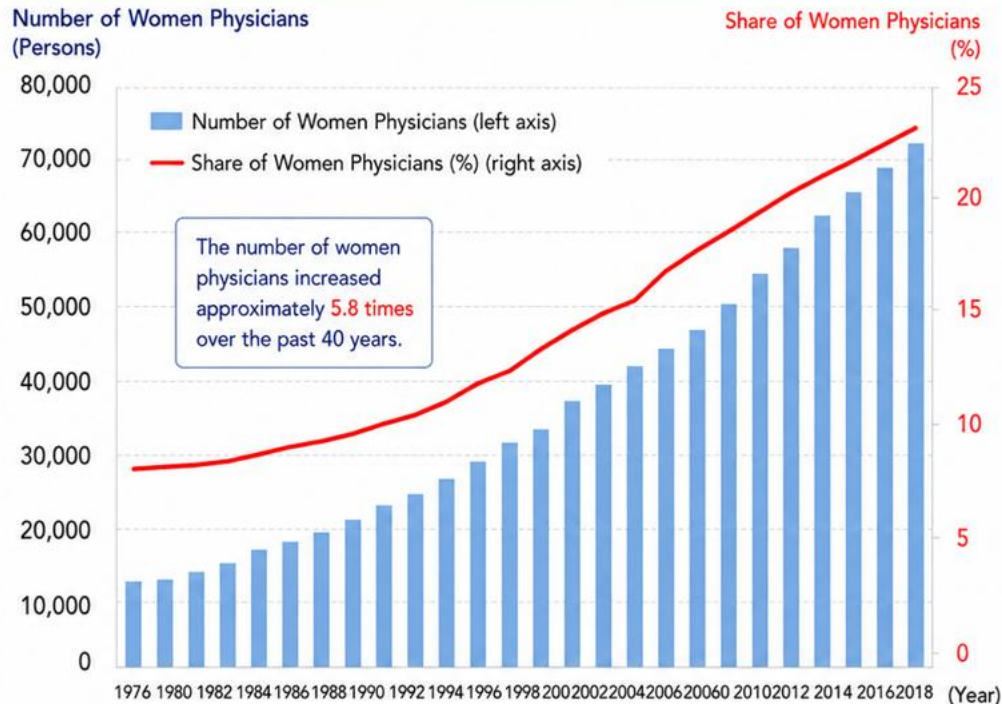


Source: Ministry of Health, Labour and Welfare, Japan. Survey of Physicians, Dentists and Pharmacists.
This survey is conducted once every two years. The latest available data are for 2012.

Women Now Represent a Growing Share of the Workforce

Rapid increase in the number and share of women physicians in Japan

Trends in the Number and Share of Women Physicians in Japan



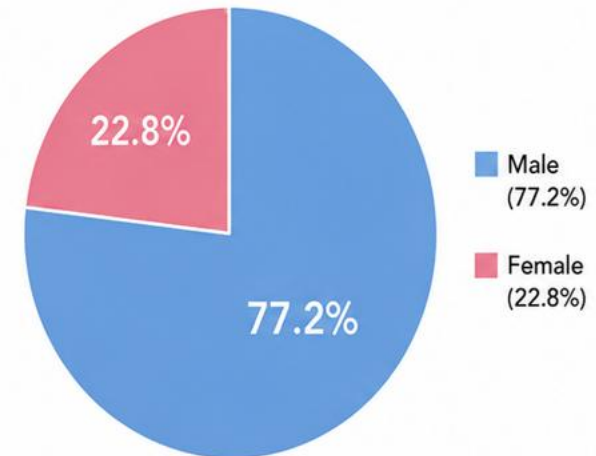
Number of Women Physicians
in 2020 (Reiwa 2)

77,546 persons

Gender Composition of Physicians (2020)

Total Number of Physicians

339,623 persons



The ratio of male to female physicians is

77.2% to **22.8%**.

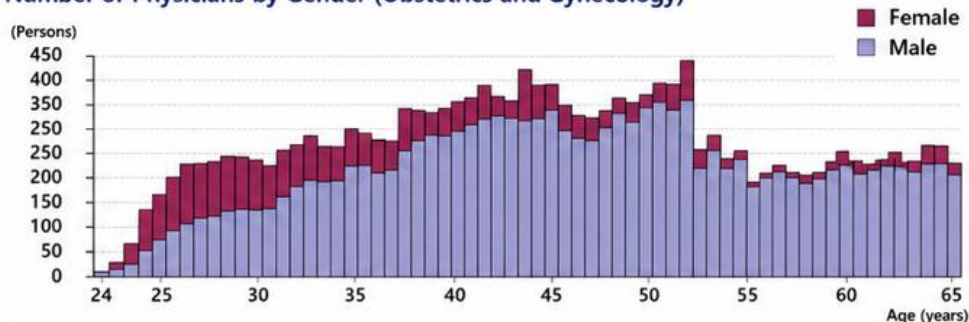
Source: Ministry of Health, Labour and Welfare, Japan. Survey of Physicians, Dentists and Pharmacists.
The survey is conducted once every two years. The latest available data are for 2020 (Reiwa 2).

Gender Imbalance Among Obstetricians and Gynecologists

— Example of the Impact of Specialty Bias —

Proportion of Female Physicians in Obstetrics and Gynecology

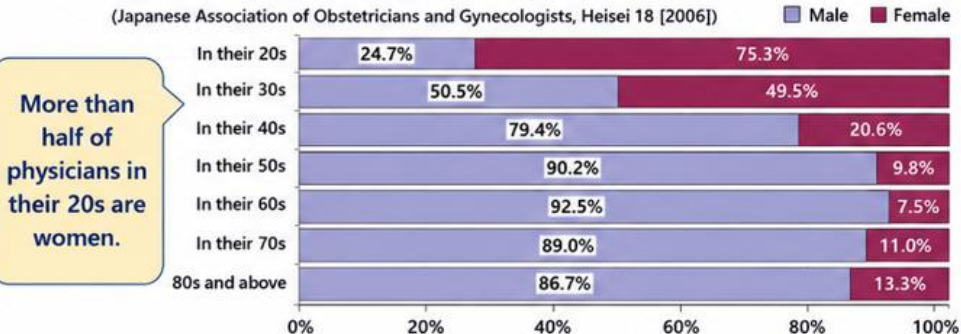
Number of Physicians by Gender (Obstetrics and Gynecology)



Source: Dr. Chizuko Kuwae, Professor Emeritus, Tokyo Medical and Dental University, Former Head, Department of Obstetrics and Gynecology, Tokyo Metropolitan Central Hospital

Percentage of Female Members by Age Group

(Japanese Association of Obstetricians and Gynecologists, Heisei 18 [2006])



More than half of physicians in their 20s are women.

Impact of Marriage and Childbirth on the Medical Workforce



Marriage and childbirth

lead many female physicians to leave full-time positions or hospital-based practice.



Fewer physicians are available to cover deliveries and night shifts during childbirth.



Sharp decline in the number of physicians who can respond to childbirth-related on-call duties.



Increased workload on remaining physicians leads to overwork and burnout.

! Addressing gender bias and supporting work-life balance are essential to ensure a sustainable medical workforce.

Source: Japanese Association of Obstetricians and Gynecologists (2006).

Dr. Chizuko Kuwae, Professor Emeritus, Tokyo Medical and Dental University, Former Head, Department of Obstetrics and Gynecology, Tokyo Metropolitan Central Hospital.

Gender Equity Survey Across Private Medical Universities in Japan

Survey of Private Medical Universities in Eastern Japan

The 42nd Liaison Council of
Private Medical Universities in Eastern Japan

Host Institution:

Faculty of Medicine, Teikyo University

Principal Investigator:

Kyoko Nomura, MD

Study Period:

June 2009 – May 2011

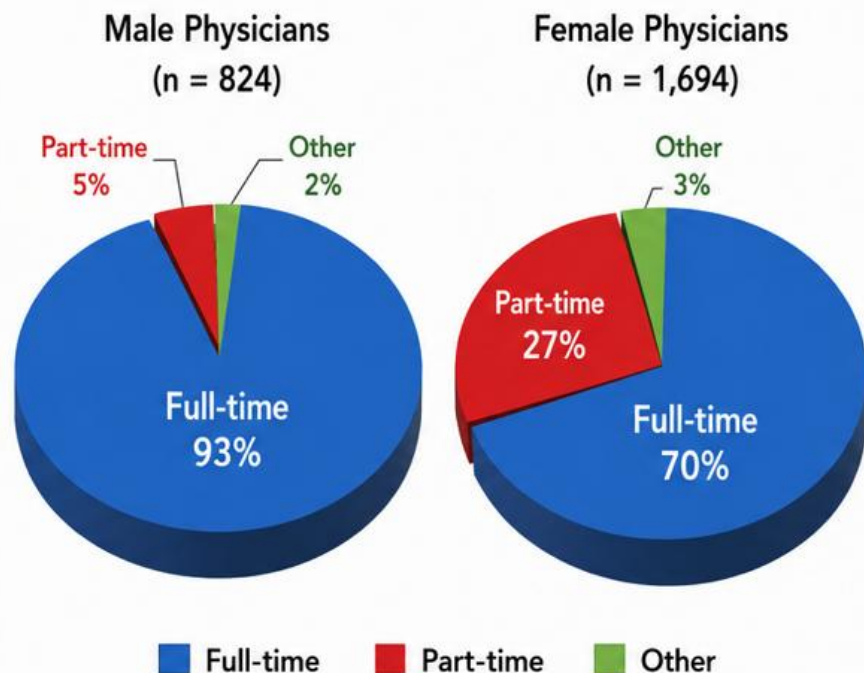
Participating Private Medical Universities

- Aichi Medical University
- Iwate Medical University
- Osaka Medical College
- Kawasaki Medical School
- Kanazawa Medical University
- Kansai Medical University
- Kitasato University
- Kyorin University
- Kinki University
- Kurume University
- Keio University
- Saitama Medical University
- Sangyo Medical University (Note)
- Jichi Medical University (Note)
- Juntendo University
- Showa University
- St. Marianna University School of Medicine
- Teikyo University
- Tokai University
- Tokyo Medical University
- The Jikei University School of Medicine
- Tokyo Women's Medical University
- Toho University
- Dokkyo Medical University
- Nihon University School of Medicine
- Nippon Medical School
- Hokkaido University School of Medicine
- Fukushima Medical University
- Yamaguchi University
- Yokohama City University
- Ritsumeikan University
- International University of Health and Welfare
- Tohoku Medical and Pharmaceutical University

(Note) Changed name during the survey period.

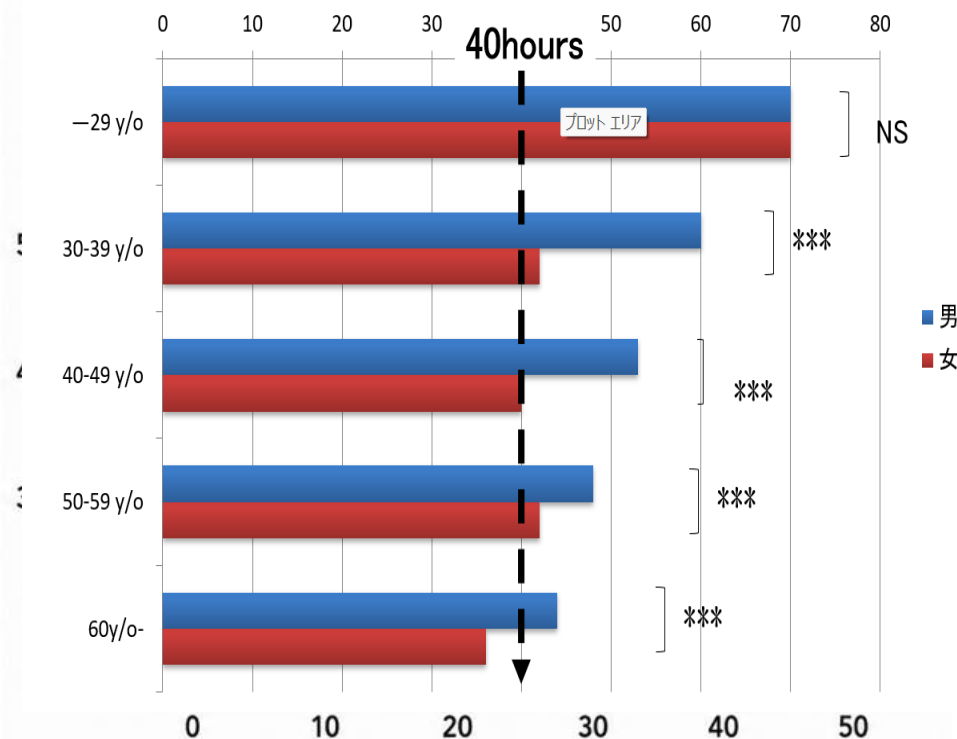
Working Status and Weekly Working Hours of Physicians by Gender

Working Status by Gender



A much higher proportion of male physicians are full-time, while a higher proportion of female physicians work part-time.

Weekly Working Hours by Gender



Female physicians work fewer hours than male physicians across all working hour categories.

Note: Data from the Survey of Private Medical Universities in Eastern Japan (The 42nd Liaison Council Meeting),
Principal Investigator: Kyoko Nomura, MD, June 2009 – May 2011.

Underrepresentation of Women in Leadership Positions in Japanese Medicine

National Medical Schools

	President of Medical School			Full Professor		
	Total Number	Number of Women	Percentage of Women (%)	Total Number	Number of Women	Percentage of Women (%)
Overall	80	2	2.5%	3962	103	2.6%
National	51	1	2.0%	2318	51	2.2%
Private	29	1	3.4%	1677	52	3.1%

Source: Kosuke Yasukawa. Medical Teacher. 2013. (Survey of all medical schools, 2010–2011)

Note: Visiting Professors, Specially Appointed Professors, and Emeritus Professors are excluded.

Japanese Society of Medical Sciences

	Councilor			Officer		
	Total Number	Number of Women	Percentage of Women (%)	Total Number	Number of Women	Percentage of Women (%)
Basic Medical Sciences	5937	353	5.9%	338	3	0.8%
Clinical Medical Sciences	32583	2228	6.8%	2140	78	3.6%

Source: Survey report on the status of support for women physicians in the Japanese Society of Medical Sciences (May 2012)

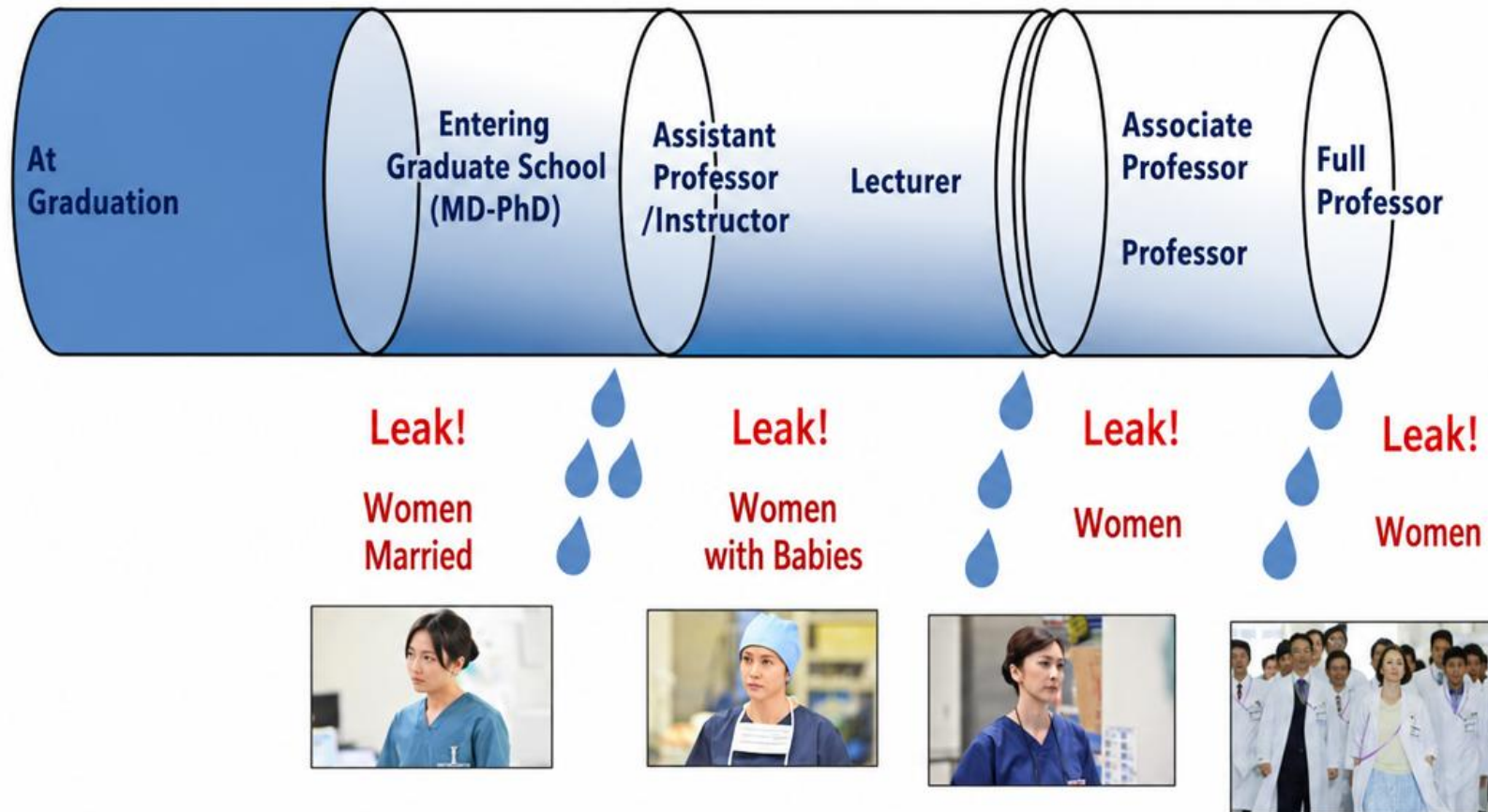
Basic Medical Sciences: Japanese Society for Radiation Research, Japanese Ophthalmological Society, Japanese Association for Acute Medicine, Japanese Society of Plastic and Reconstructive Surgery, Japanese Society of Allergology, Japanese Association of Oral and Maxillofacial Surgeons, Japanese Pediatric Society, Japanese Orthopaedic Association, Japanese Society of Internal Medicine, Japanese Society of Neuropsychopharmacology, Japanese Urological Association, Japanese Dermatological Association, Japanese Pathological Association, Japanese Society of Anesthesiologists, Japanese Society of Rehabilitation Medicine, Japanese Society of Clinical Laboratory Medicine

Japan Medical Association

	Executive Board			Board Members		
	Total Number	Number of Women	Percentage of Women (%)	Total Number	Number of Women	Percentage of Women (%)
Japan Medical Association	10	1	10.0%	27	1	3.7%
	Prefectural Medical Associations					
	Total Number	Number of Women	Percentage of Women (%)			
	1118	51	4.6%			

Source: Japan Medical Association Committee on Joint Participation by Men and Women (February 2012)

The Leaky Pipeline of Women Physicians

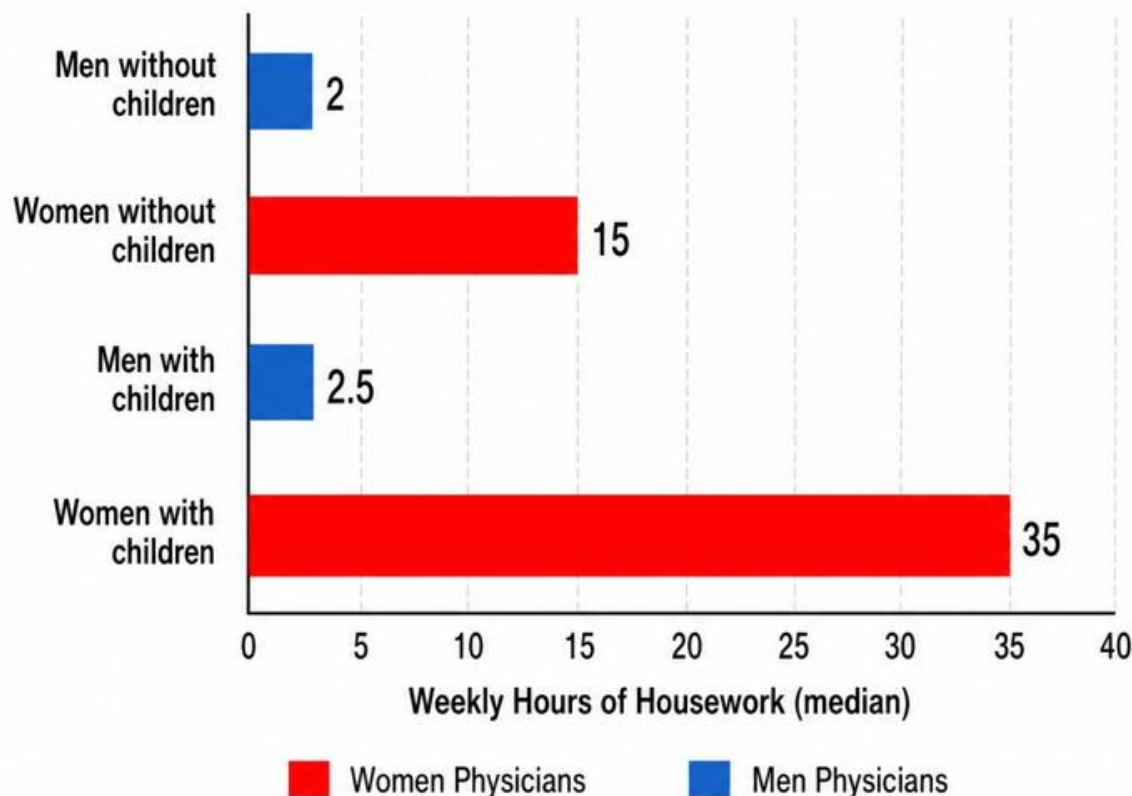


At each leak in the pipeline, women are lost.

Attrition at these stages reduces women's representation in senior academic positions.

Weekly Hours of Housework: Women vs. Men Physicians

Median weekly housework hours, stratified by parental status



Study Population

Japanese physicians (preliminary survey: men n=452, women n=224)

Outcome

Weekly hours of housework (median)

Key Finding

Women physicians bear a markedly higher housework burden than men physicians — and the gap widens dramatically once children are present. Women with children spend roughly 14× more time on housework than their male counterparts.

Traditional Gender Role Expectations Remain Deeply Embedded in the Medical Profession

Source: Yasukawa K, Nomura K. The perception and experience of gender-based discrimination related to professional advancement among Japanese physicians. *Tohoku J Exp Med.* 2014;232(1):35–42.
DOI: 10.1620/tjem.232.35

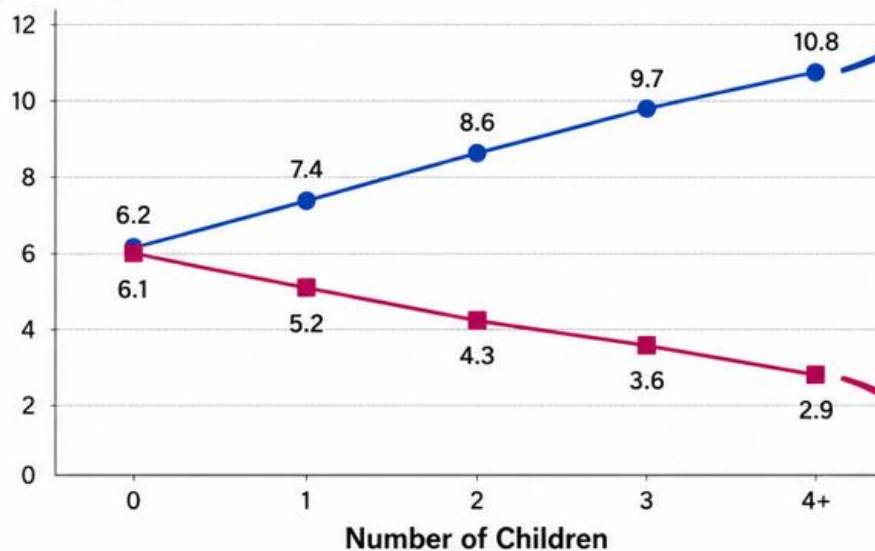
More Children, More Work for Men—but Less Work for Women

Gendered Division of Labor and the Motherhood Penalty Among Japanese Surgeons

Annual Income by Number of Children

(Adjusted for age, marital status, practice setting, academic rank, and weekly working hours)

Annual Income
(million JPY)



Male Surgeons
Income increases
as the number of
children increases.



Female Surgeons
Income decreases
as the number of
children increases.

* Adjusted for: age, marital status, practice setting, academic rank, and weekly working hours

The Fatherhood Bonus
vs.
The Motherhood Penalty



More children
→ Higher income

Men tend to work more
as their family grows.



More children
→ Lower income

Women tend to work less
as their family grows.



Study Population

- Members of the Japan Surgical Society
- Approximately 30,000 surgeons invited
- 8,316 respondents
- 546 women surgeons



Outcome

Annual Income



Key Finding

As the number of children increased,

↑ Male surgeons' income increased.

↓ Female surgeons' income decreased.



Interpretation

Women physicians are more likely to reduce work hours and career engagement after childbirth and childrearing.

This pattern reflects a persistent **gendered division of labor**, in which women continue to bear a disproportionate share of family and caregiving responsibilities.

Why?



Childcare
responsibilities



Household
work



Reduced
working hours



Fewer
opportunities for
promotion



Limited access
to leadership
positions



The issue is **not** women's capability. The issue is **how society allocates caregiving responsibilities.**

Even among women physicians, many feel a strong desire to raise their children with their own hands.

Open Access

Research

BMJ Open The difficulty of professional continuation among female doctors in Japan: a qualitative study of alumnae of 13 medical schools in Japan

Kyoko Nomura,¹ Yuka Yamazaki,² Larry D Gruppen,³ Saki Horie,⁴ Masumi Takeuchi,⁴ Jan Illing⁵

To cite: Nomura K, Yamazaki Y, Gruppen LD, *et al*. The difficulty of professional continuation among female doctors in Japan: a qualitative study of alumnae of 13 medical schools in Japan. *BMJ Open* 2015;5:e005845. doi:10.1136/bmjopen-2014-005845

► Prepublication history for this paper is available online. To view these files please visit the journal online (<http://dx.doi.org/10.1136/bmjopen-2014-005845>).

Received 4 June 2014
Revised 19 February 2015
Accepted 1 March 2015

ABSTRACT

Objectives: To investigate the difficulties Japanese female doctors face in continuing professional practice.

Design: A qualitative study using the Kawakita Jiro method.

Setting: A survey conducted in 2011 of 13 private Japanese medical school alumni associations.

Participants: 359 female doctors.

Primary outcome measures: Barriers of balancing work and gender role.

Results: The female doctors reported that professional practice was a struggle with long working hours due to a current shortage of doctors in Japan. There was also a severe shortage of childcare facilities in the workplace. Some women appeared to have low confidence in balancing the physician's job and personal life, resulting in low levels of professional pursuit. There appeared to be two types of stereotypical gender roles, including one expected from society, stating that "child rearing is a woman's job", and the other perceived by the women themselves, that some women had a very strong desire to raise their own children. Male doctors and some female doctors who were single or older were perceived to be less enthusiastic about supporting women who worked

Strengths and limitations of this study

- A qualitative study based on 359 female doctors revealed that barriers of balancing work and gender role were mainly poor working conditions, including long working hours due to a physician shortage, nursery shortage and stereotypical gender role.
- There appeared to be two types of stereotypical gender roles, including one expected from society, stating "child rearing is a woman's job", and the other perceived by the women themselves, that some women had a very strong desire to raise their own children.
- Male doctors and some female doctors who were single or older were perceived to be less enthusiastic about supporting women who worked while raising children because these coworkers feared that they would have to perform additional work as a result of the women taking long periods of leave.
- The limitation of this study includes textual analyses using the Kawakita Jiro method, which may not have thematically saturated data.

Nomura et al. BMJ Open, 2014

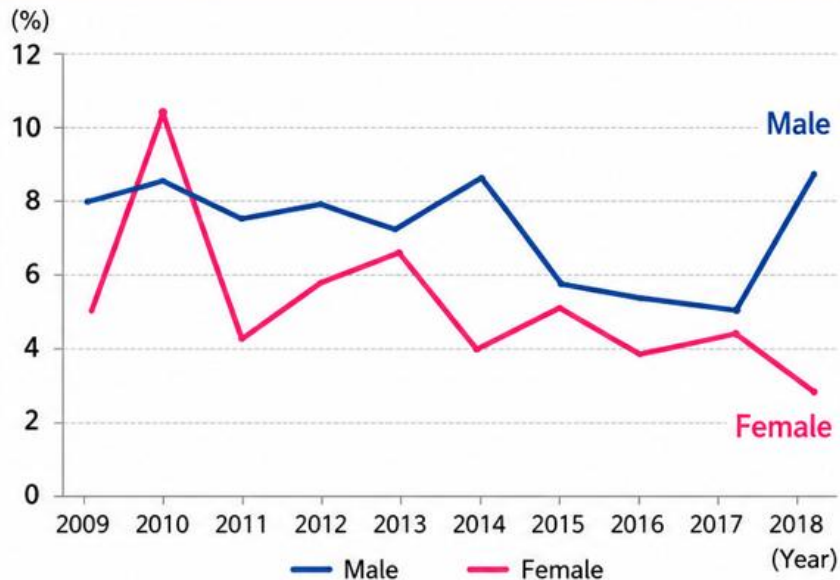
2. Gender Equity as a Workforce Issue

The 2018 Tokyo Medical University Scandal



Gender Discrimination in Admissions: The Tokyo Medical University Scandal

Trends in Pass Rates by Gender
(General Entrance Examination, Tokyo Medical University)



Throughout the years, male pass rates were consistently higher than female pass rates.

Mechanism of Exam Score Adjustment
(Example using an essay question)

Each essay question is scored out of 100 points.

A coefficient of 0.8 is applied to each attribute score.



Applicant Category	Bonus Points Added
① Male (0 gap years: first-time applicant)	+20 points
② Male (1 gap year: one-year repeater)	+20 points
③ Male (2 gap years: two-year repeater)	+20 points
④ Male (3 gap years: three-year repeater)	+10 points
⑤ Male (4+ gap years: four-year repeater or more)	+ 0 points
⑥ Female (regardless of gap years)	+ 0 points

Even if women score a perfect 100 points, they can obtain only up to 80 points.
(100 points × 0.8 coefficient)



Evidence revealed that the university intentionally manipulated entrance exam scores to disadvantage female applicants.

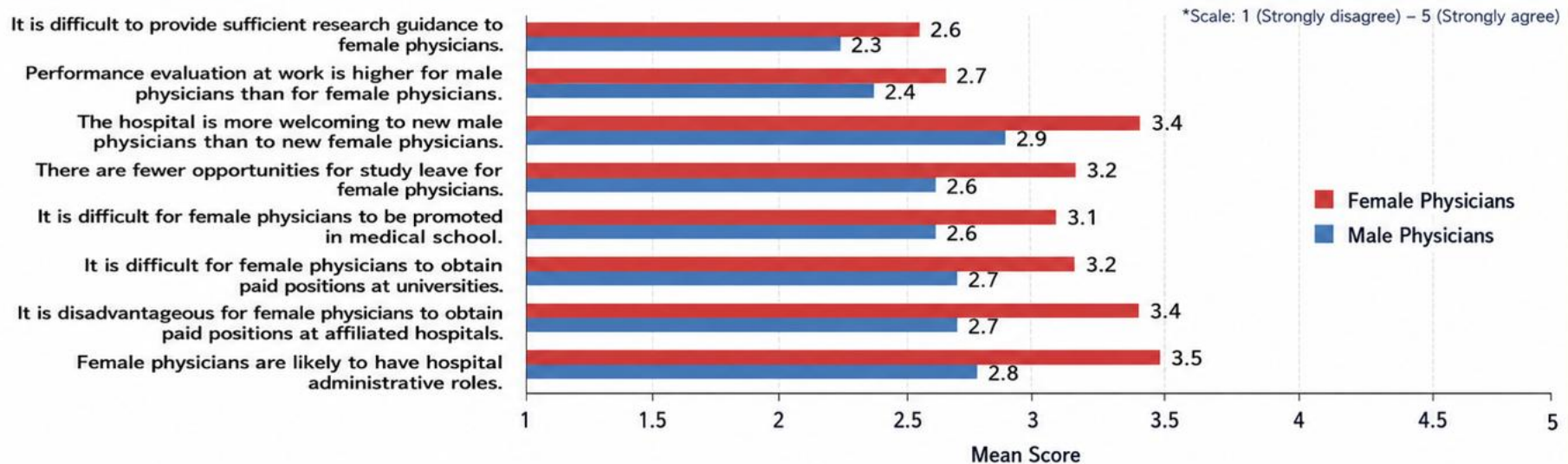
Source: Asahi Shimbun. (2018). "Tokyo Medical University Admits to Adjusting Entrance Exam Scores by Gender."
Based on data from the school and the Ministry of Education, Culture, Sports, Science and Technology of Japan.

More Women Than Men Reported Experiencing Gender Discrimination Related to Professional Advancement

	Female Physicians		Male Physicians		p-value
	N	%	N	%	
Yes, it happened	332	21	23	3	<0.001
No, it did not happen	886	55	678	83	
Not sure / I don't know	386	24	116	14	

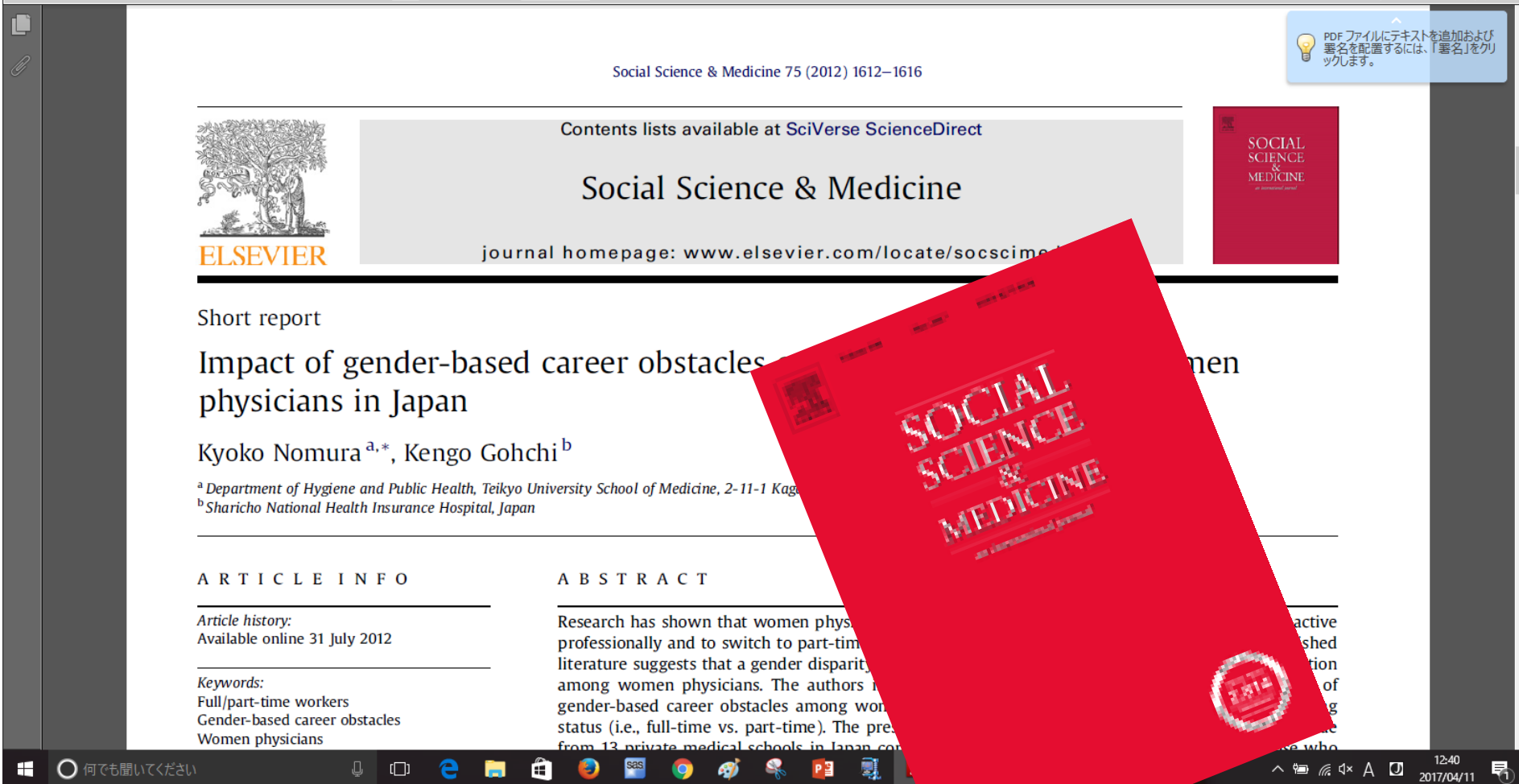
χ^2 test

Recognition of Gender Differences in Career Opportunities and Treatment in the Medical Field (Mean Score*)



Recognition of gender disparities in employment and career opportunities is stronger among female physicians than among male physicians.

Physicians with a stronger recognition of gender disparities in employment and career opportunities were 40% more likely to work part-time.



The screenshot shows the journal's homepage for Social Science & Medicine, Volume 75 (2012), pages 1612-1616. The page features the Elsevier logo, a tree illustration, and the journal title. A red overlay, tilted at an angle, covers the right side of the page, displaying the journal's title 'SOCIAL SCIENCE & MEDICINE' and a red circular seal with the year '2012'. The main article, 'Impact of gender-based career obstacles among women physicians in Japan' by Kyoko Nomura and Kengo Gohchi, is visible. The article's abstract discusses research on gender disparities in employment and career opportunities among women physicians. The page also includes a table of contents and a list of keywords.

Social Science & Medicine 75 (2012) 1612–1616

Contents lists available at SciVerse ScienceDirect

Social Science & Medicine

journal homepage: www.elsevier.com/locate/socscimed

Short report

Impact of gender-based career obstacles among women physicians in Japan

Kyoko Nomura^{a,*}, Kengo Gohchi^b

^a Department of Hygiene and Public Health, Teikyo University School of Medicine, 2-11-1 Kagurazaka, Nishi-ku, Tokyo 164-8638, Japan

^b Sharicho National Health Insurance Hospital, Japan

ARTICLE INFO

Article history:
Available online 31 July 2012

Keywords:
Full/part-time workers
Gender-based career obstacles
Women physicians

ABSTRACT

Research has shown that women physicians are more likely to work part-time than men. This literature suggests that a gender disparity exists in employment and career opportunities among women physicians. The authors investigated the recognition of gender-based career obstacles among women physicians and its relationship with their employment status (i.e., full-time vs. part-time). The present study was conducted among 13 private medical schools in Japan.

12:40 2017/04/11

Nomura and Gohchi. [Soc Sci Med.](#) 2012 Nov;75(9):1612-6.

Women who resigned from their jobs instead of taking maternity leave at the time of first childbirth were significantly less likely to obtain specialty board qualifications or DMSc degrees

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Volume 91, Issue 8
August 2016

JOURNAL ARTICLE

Factors Associated With Attainment of Specialty Board Qualifications and Doctor of Medical Science Degrees Among Japanese Female Doctors

Get access >

Yuki Chatani, MD, Kyoko Nomura, MD, PhD ✉, Aya Ishiguro, MD, PhD, Reshma Jaggi, MD, PhD

Academic Medicine, Volume 91, Issue 8, August 2016, Pages 1173–1180,
<https://doi.org/10.1097/ACM.0000000000001260>

DOI: 10.1097/ACM.0000000000001260

Glass ceiling

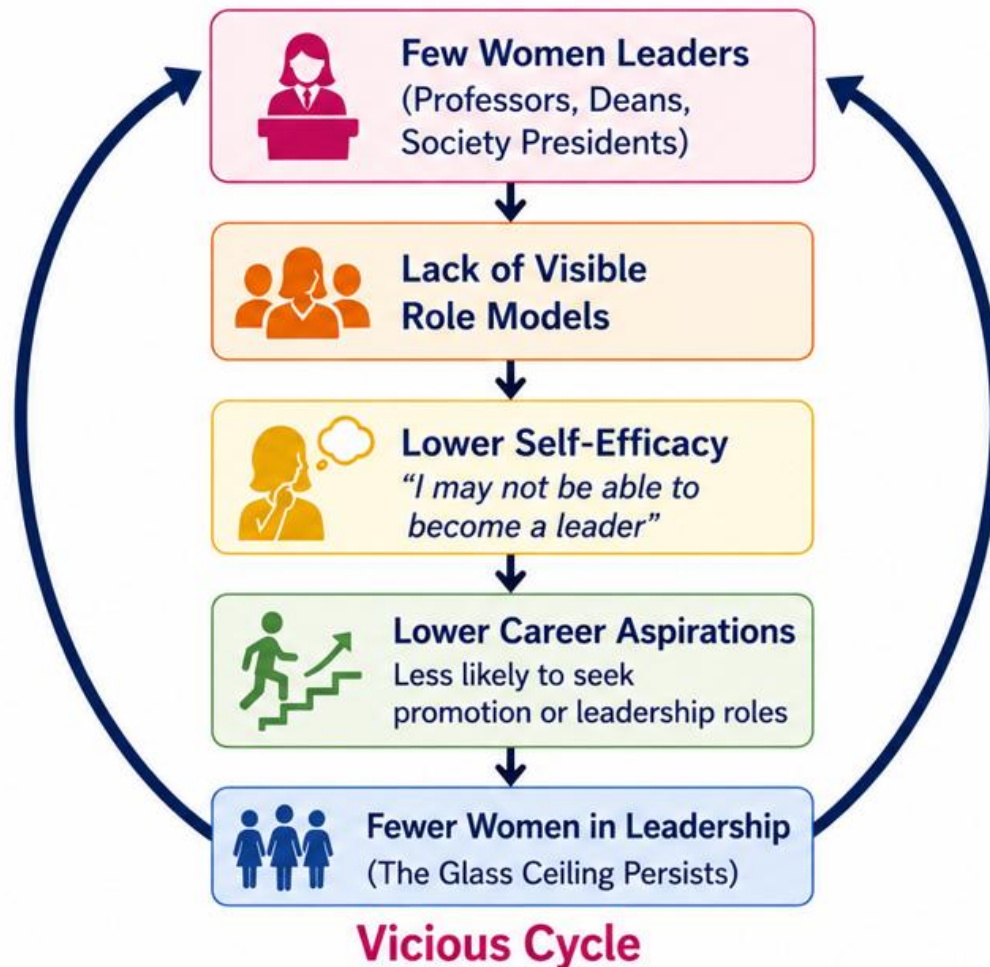


The glass ceiling refers to invisible barriers that limit women's opportunities for promotion to senior academic, leadership, and decision-making positions, regardless of their qualifications and performance.

Glass ceiling
Sticky Floor

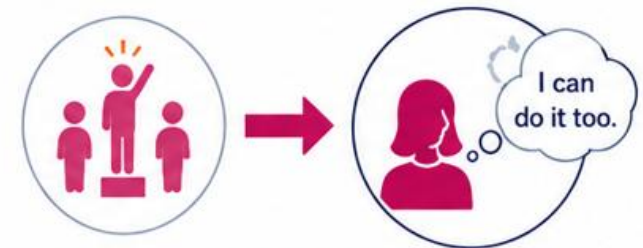
Why Does the Glass Ceiling Persist?

Lack of Female Role Models May Undermine Self-Efficacy Among Young Women Physicians



Self-efficacy matters

According to Bandura's Social Cognitive Theory,



Without visible female leaders, young women physicians may find it more difficult to envision themselves in leadership positions.

- Sources:**
1. Bandura, A. Social cognitive theory: An agentic perspective. *Annu Rev Psychol.* 2001;52:1-26. PMID: 11148297.
 2. Nomura K, Yonezawa A, Kizu J, et al. Low self-efficacy and career preference for non-managerial positions among female surgeons in Japan: A cross-sectional study. *BMC Women's Health.* 2010;10:32. PMID: 20354381.
 3. Yoshida Y, Yasunaga H, Kajimoto K, et al. Association between low self-efficacy and preference for a non-managerial career among female surgeons in Japan: a cross-sectional study. *BMJ Open.* 2010;1(1):e000025. PMID: 20354381.

Legal Framework Supporting Women's Health in Japan

Labor Standards Act (1947)

- Menstrual leave
- Restrictions on hazardous work
- Protection during pregnancy and childbirth
- Restrictions on overtime and night work during pregnancy

Equal Employment Opportunity Act (1986)

- Prohibition of sex discrimination
- Maternal health protection measures

Child Care and Family Care Leave Act (1991)

- Childcare leave
- Family caregiving leave
- Flexible work arrangements

Next Generation Childcare Support Act (2003)

- Employer responsibilities for work–family balance

Women's Participation and Advancement Act (2015)

- Promotion of women in leadership positions
- Disclosure of gender-related workforce indicators

Health and Productivity Management in Japan

Healthy Employees Create Healthy Organizations

The Health and Productivity Cycle



Employee Health

Support physical and mental health and empower self-care



Work Engagement

Improve motivation, satisfaction and retention



Productivity

Enhance performance and value creation



Corporate Growth

Sustainable growth of organizations and the nation



Investing in employee health leads to engaged people, higher productivity, and sustainable growth for organizations and society.

Certification Criteria for

Health and Productivity Management Outstanding Organizations Recognition Program (Small and Medium Enterprise Category)

1



Management Philosophy (Top Management Commitment) and Organizational Framework

- Health declaration by top management
- Health promotion leadership and system
- Governance and accountability

2



Assessment of Employee Health Issues

- Health checkup participation
- Identification and analysis of health issues
- Implementation of stress checks and follow-up

3



Work Engagement and Organizational Culture

- Health literacy and education
- Work-life balance and flexible work arrangements
- Communication, consultation, and support systems

4



Specific Health Promotion Measures

- Health guidance and support
- Nutrition and healthy eating
- Physical activity and exercise
- Women's health initiatives
- Mental health measures
- Infectious disease prevention
- Measures to prevent long working hours

Women's health is positioned as an important measure within the overall health promotion framework.

5



Evaluation and Continuous Improvement

- Monitoring and evaluation of initiatives
- Use of health data and analysis
- Continuous improvement (PDCA cycle)

6



Compliance and Risk Management

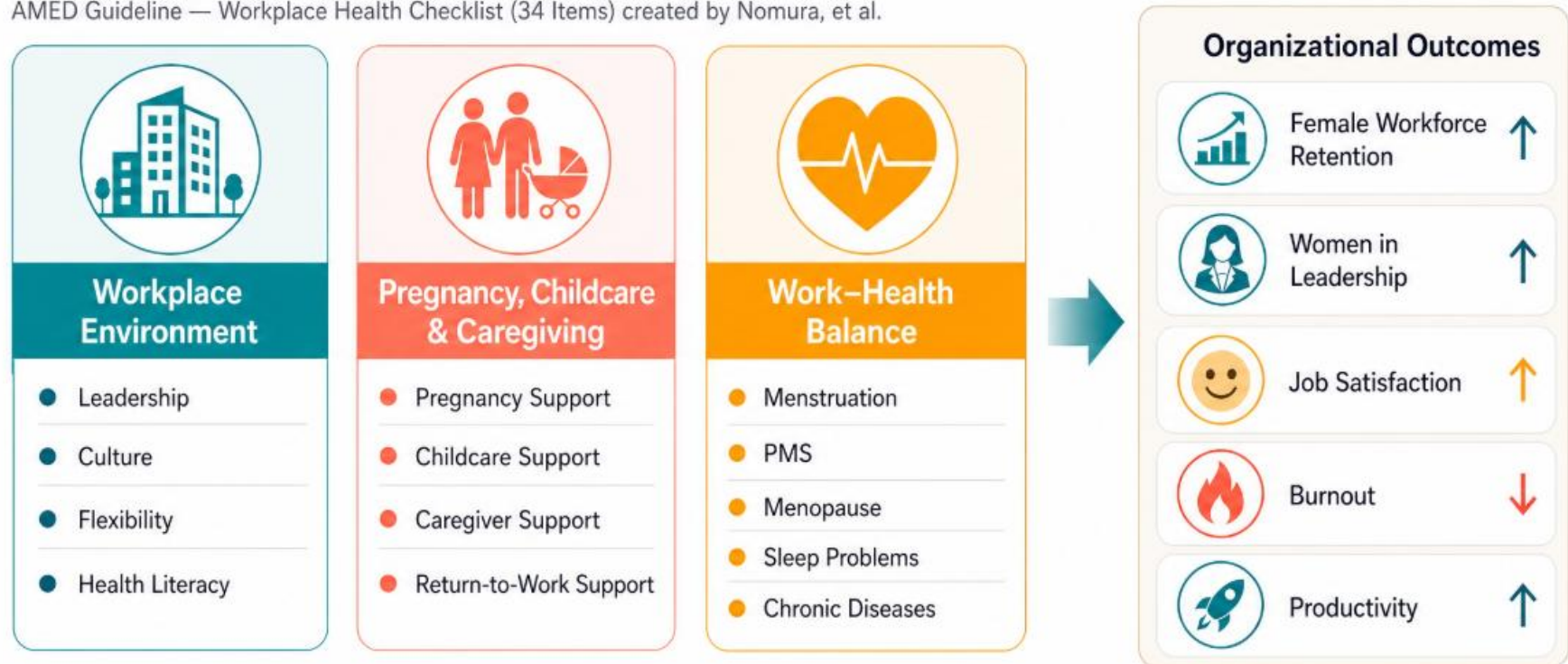
- Compliance with laws and regulations
- Occupational health and safety management
- Risk management

Japan Agency for Medical Research and Development Women's health checklist and digital apps evidence

Workplace Women's Health Index (WHI Score)

AMED Guideline for Women's Health at Work

AMED Guideline — Workplace Health Checklist (34 Items) created by Nomura, et al.



Source: Nomura et al. Development of a Workplace Health Initiatives Checklist for Women and its cross-sectional associations with burnout, productivity, and satisfaction. *J Occup Health*. 2026 Jan 6;68(1):uiag018. doi: 10.1093/joccu/uiag018.

Japan Society of Occupational Health

<https://wwh.sanei.or.jp/>



秋田大学
Akita University



事業紹介 チェックリストとは 職場でのデジタルデバイスの活用とその効果 よくあるご質問 お役立ちコンテンツ

お知らせ



職場でのデジタルデバイスの活用とその効果の5つのカテゴリー



月経随伴症状



運動（身体活動・座位行動、運動と労働生産性）



体重管理



睡眠（不眠症状）



喫煙、育児



働く女性の方へ



企業労務担当の方
産業保健スタッフの方
サービス事業者の方
へ



各種チェックリスト
の
ダウンロード



2024.04.01 研究業績

身体活動を促進し、座りっぱなしの行動を減らすためのmHealth介入が仕事関連の生産性とパフォーマンスに及ぼす効果: 系統的レビューのプロトコル



2024.02.06 研究業績

就労女性における月経随伴症状の管理ならびに母乳育児と仕事の両立に向けたデジタルデバイスの使用に関する文献紹介が産業医学ジャーナルに掲載になりました。



2024.02.06 研究業績

就労女性の更年期障害の判断尺度が、『Environmental health and preventive medicine』に掲載されました



2023.11.10 研究業績

我が国の就労女性の健康に関するスコアピングレビュー Journal of Occupational Healthに論文が掲載されました。

読み取りQRLコード

**Working
Women's
Health**



3. Mechanism of physician burnout

Vicious cycle of mental ill health among medical professionals

Physician Shortage

Physician maldistribution

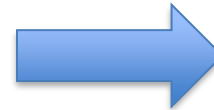
Women physician issue



Overwork



Burnout



Depression

Early retirement



KAROSHI

KAROSHI among Physicians

— Death from Overwork —

Karoshi (death from overwork) refers to death caused by excessive working hours and severe stress that lead to the onset of cerebrovascular or cardiovascular diseases, and other fatal conditions.

ROOT CAUSES



LONG WORKING HOURS

- Chronic overtime work
- Repeated long hours and on-call duties



HIGH WORKLOAD & RESPONSIBILITY

- Too many patients and tasks
- High responsibility for patients' lives



PSYCHOLOGICAL STRESS

- Human relationships
- Harassment
- Lack of support



LIFESTYLE DISRUPTION

- Sleep deprivation
- Irregular meals
- Lack of exercise

PATHWAY TO KAROSHI

ACCUMULATION OF BURDEN



Persistent stress from long working hours and heavy workload puts strain on the body and mind.

PHYSICAL AND MENTAL DYSFUNCTION



Fatigue accumulates, leading to insomnia, headaches, anxiety, depressive symptoms, and decline in concentration.

DISEASE ONSET



Hypertension, arteriosclerosis, and autonomic nervous system imbalance increase the risk of cardiovascular and cerebrovascular diseases.

DETERIORATION & CRITICAL EVENT



Sudden onset of stroke, heart attack, subarachnoid hemorrhage, or other acute conditions leading to a critical state.

The longer the time under stress, the higher the risk.

OUTCOME

KAROSHI (DEATH)



Death caused by cerebrovascular or cardiovascular disease or other fatal conditions triggered by overwork and stress.

Harsh Working Conditions among Physicians in Japan

February 2007: "Survey on Physicians' Working Conditions"



Responses obtained from **1,036** physicians at approximately **150** facilities across **25** prefectures in Japan.



95.8% of physicians reported working approximately **three overnight shifts per month**. Each shift involved **16** hours of overnight duty following a regular **8**-hour workday, resulting in up to **32** consecutive hours of work.



32.7% worked **≥65 hours** per week
63.3% worked **≥80 hours** of overtime per month

} **Extremely long working hours**



97.9% of female physicians did **not** take menstrual leave



~60% of female physicians experienced **pregnancy-related complications**, including miscarriage.

► **These findings highlight the severe work burden and the unique challenges faced by physicians, particularly women physicians.**

Source: Ministry of Health, Labour and Welfare. Survey on Physicians' Working Conditions, February 2007.

Karoshi Line: >80 hours of overtime/month

Upper limits for overtime under Japan Industrial Safety and Health Act

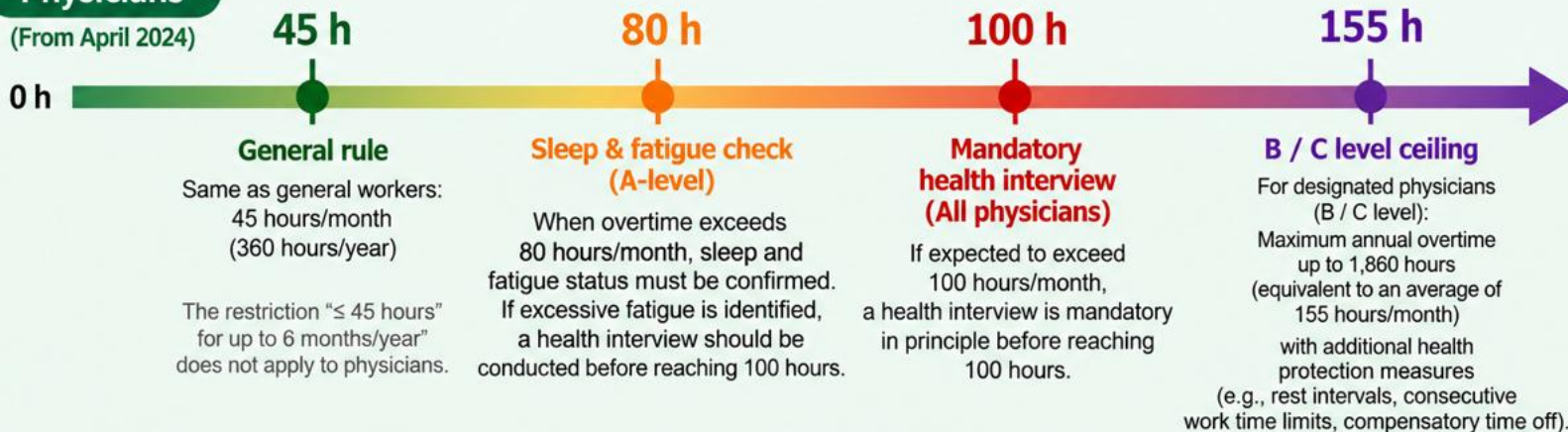
General workers

(Regular employees)



Physicians

(From April 2024)



Source: Ministry of Health, Labour and Welfare, Japan (2024).
Overtime work limit regulations for physicians; Guidelines on physician health management, etc.

When overtime work exceeds 80 h/month, physicians are assessed for sleep and accumulated fatigue.

If overtime is expected to reach ≥ 100 h/month, a mandatory health interview is required.



Occupational
health doctor

Legally required assessment:

Work conditions • Sleep • Accumulated fatigue •
Physical & mental health

Practical questions:

On-call duties • Outside work • Post-call rest •
Days off • Depression/insomnia • Near-miss
incidents

Medical Care Act and Ordinance for Enforcement of the Medical Care Act.

Many Physicians Have Lost Their Lives

— Documented Cases of Karoshi and Karojisatsu in Japan —

Karoshi = Death from overwork
(work-related illness or overwork
leading to death)
Karojisatsu = Suicide due to overwork



#	Physician (age at death)	Workplace (Prefecture)	Type	Workers' Compensation / Legal Outcome
1	Surgeon (29)	Ibaraki	Suicide due to overwork (Apr 1992)	Workers' compensation recognized (2005)
2	Obstetrician/Gynecologist (35)	Yamanashi	Death from overwork (1995)	Workers' compensation recognized
3	Anesthesiologist (33)	Osaka	Death from overwork (Mar 1996)	Damages awarded by court (first instance)
4	Female Pediatrician (43)	Chiba	Death from overwork (1997)	Workers' compensation recognized (1998)
5	Resident, Kansai Medical University (26)	Osaka	Death from overwork (1998)	Workers' compensation recognized; minimum wage protection (2005)
6	Orthopedic Surgeon	Kanagawa	Death from overwork (1998)	Workers' compensation recognized (2003)
7	Pediatrician (44)	Tokyo	Suicide due to overwork (Aug 1998)	Workers' compensation recognized (Mar 2007)
8	Department Head / Physician (53)	Tokyo	Suicide due to overwork (Sep 1999)	Public-service accident recognized (2004)
9	Resident, Yokohama City University (30)	Kanagawa	Suicide due to overwork (Sep 2000)	Workers' compensation recognized
10	Otolaryngologist (30)	Okinawa	Death from overwork (Jan 2001)	Settlement
11	Internist (43)	Fukuoka	Death from overwork (Jun 2001)	Workers' compensation recognized (2006)
12	Surgeon (38)	Tochigi	Suicide due to overwork (Jun 2002)	Workers' compensation recognized
13	Pediatrician (31)	Hokkaido	Death from overwork (Oct 2003)	Workers' compensation recognized (Feb 2007)
14	Female Anesthesiologist (28)	Ehime	Suicide due to overwork (Jan 2004)	Settlement (Aug 2008)
15	Dentist at a Remote-Island Clinic (51)	Tokyo	Death from overwork (May 2004)	Public-service accident claim pending
16	Internist (26)	Nara	Death from overwork (2004)	Workers' compensation claim pending
17	Surgeon (44)	Kyoto	Death from overwork (May 2004)	Workers' compensation recognized (Aug 2006)
18	Female Resident, Nihon University (26)	Tokyo	Death from overwork (Apr 2006)	Workers' compensation recognized (Feb 2007)

Source TOYOKEIZAI (2006) www.toyokeizai.net

28 y/o Anesthesiologist in 2006



37 y/o OBGYN in 2016



26 y/o resident in 2022



44 y/o Pediatrics ward director in 2016



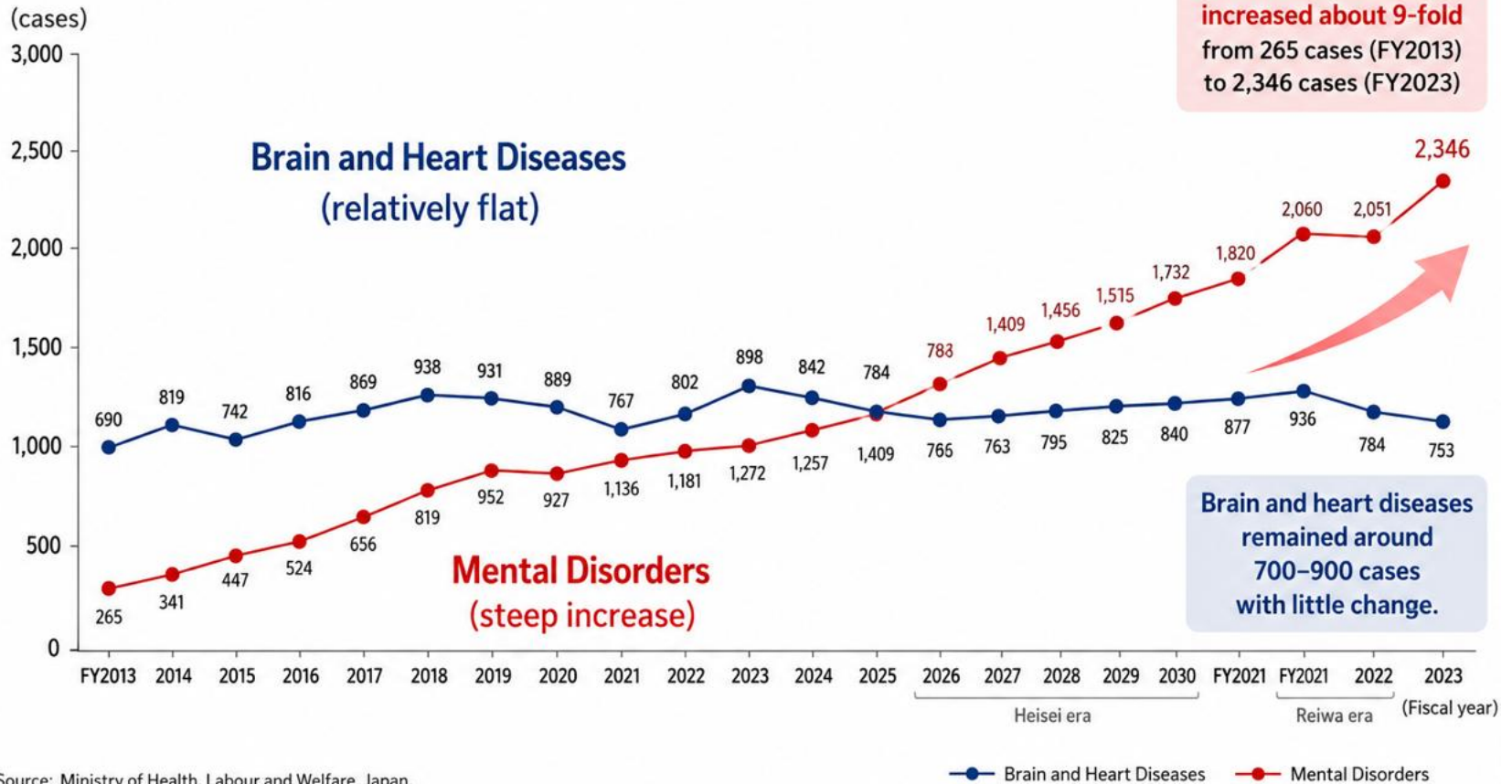
26 y/o resident in 2023



Sharp Increase in Workers' Compensation Claims for Mental Disorders in Japan

While claims for brain and heart diseases have remained relatively flat,
claims for mental disorders have surged in the past decade.

Mental disorders claims increased about 9-fold from 265 cases (FY2013) to 2,346 cases (FY2023)

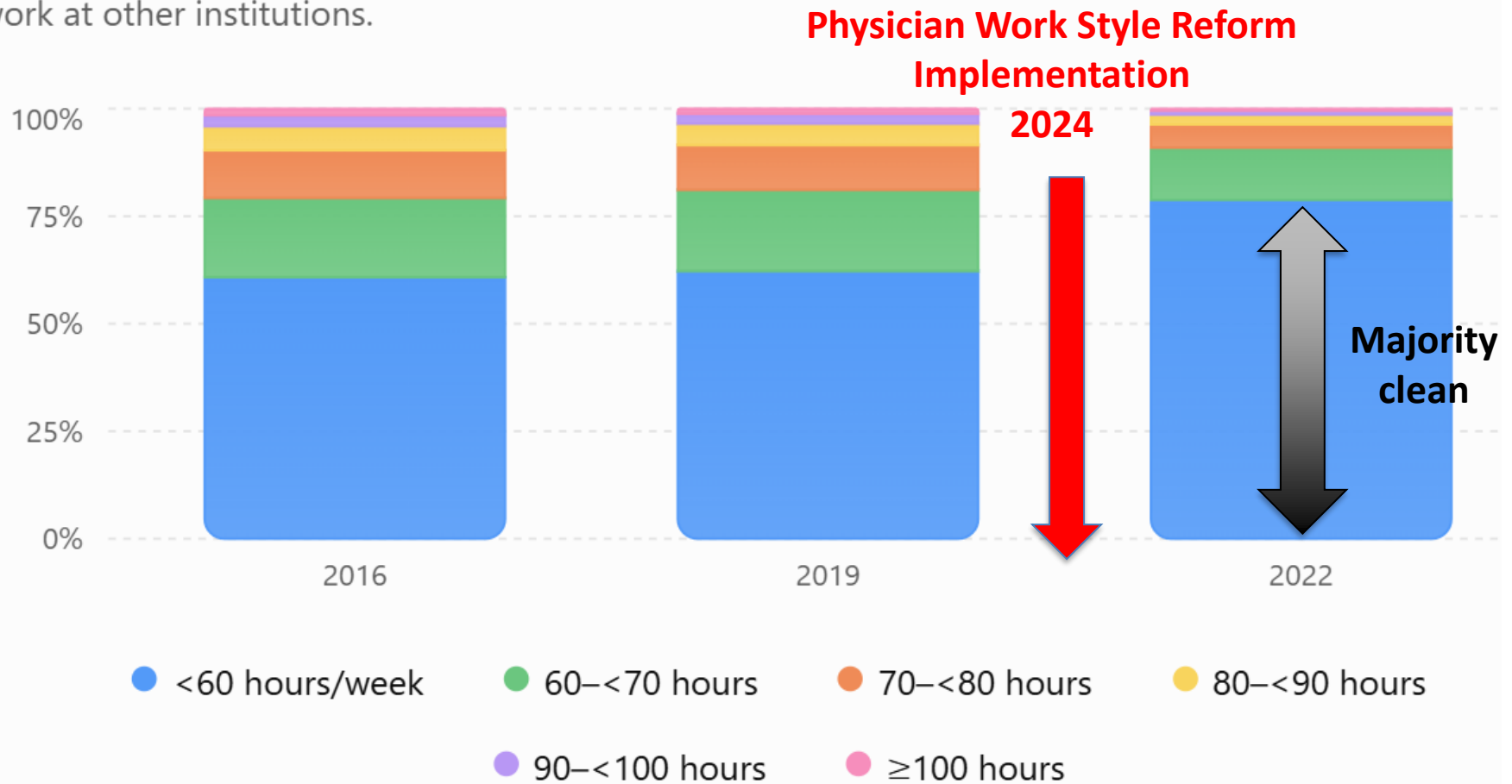


Brain and heart diseases remained around 700–900 cases with little change.

Source: Ministry of Health, Labour and Welfare, Japan.
Trends in Workers' Compensation Claims (Status of Benefit Payments, etc.)

Weekly Working Hours of Hospital Physicians in Japan

Distribution of weekly working hours among full-time hospital physicians, including work at other institutions.



Source: Ministry of Health, Labour and Welfare, Japan. National surveys of physicians' working conditions.

However, this is not the whole story. The reality is more complicated.

2024 Physician Work Style Reform

Special Rules on Physicians' Working Hours

When working at multiple medical institutions, working hours must be summed across them.

Level	Reason long working hours are needed	Annual upper limit for overwork
Level A	(Standard level — for occasional long working hours)	960 hours
Cooperative Level B	To secure regional healthcare — long hours arise when working time at dispatched hospitals is combined	1,860 hours (960 hours at each individual hospital)
Level B	To secure regional healthcare	1,860 hours
Level C-1	For training of clinical residents and senior residents	1,860 hours
Level C-2	For acquiring advanced clinical skills	1,860 hours

Monthly overtime should generally remain below 100 hours. If ≥ 100 hours is anticipated, mandatory health protection measures, including a medical interview, apply.

General rules does not apply to Physician.

Overtime Work Limits in Japan

	General Workers	Physicians (Level A)
Standard annual limit	360 h/year	960 h/year
Standard monthly limit	45 h/month	—
Annual limit under special circumstances	720 h/year	960 h/year
Single-month limit	<100 h*	Special rules for physicians
2–6 month average	≤80 h/month*	General rule does not apply

Including overtime and holiday work.

Applies in principle to
all hospital-employed physicians

Level A



**Annual upper limit for overtime and
holiday work:**

960 hours / year



With one on-call shift per week and going home at
midday after the post-call day, you can roughly stay
under 960 hours / year.

Taking interval rest periods is an effort obligation

Special Rules on Physicians' Working Hours

Example of a Doctor's Work Schedule under the "A-Wake" System

(Equivalent to 760 hours of work per year)

First-year Clinical Fellow in Gastroenterological Surgery

 Out-of-hours / Holiday work
(counted toward working hours)

 Self-study / Research

Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Day	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue
			On-call ↔									Off	Off							Off	Off		On-call ↔				Off	Off		

Time	Mon	Tue	Wed	Thu	Fri	Sat	Sun
8:00	Conference		 Case Conference				Leave (as allowed)
12:00	Surgery	Inpatient Work Surgery	Outpatient Clinic (New Patients) Break / Lunch Inpatient Work	Inpatient Work Procedure (Care / Endoscopy) Surgery Break / Lunch Operating Room (Cases) Medical Records	Inpatient Work Break / Lunch Summary & Chart Review / Medical Records Inpatient Work	Reading / Writing (Reports, Papers, Presentations)	
17:00	Break / Lunch	Summary & Chart Review / Medical Records	Medical Records				
24:00	Inpatient Work Medical Records	Inpatient Work Medical Records	Mandatory Participation in Seminar	Inpatient Work	Online Study Session	On-call Stay (No leave allowed)	

Weekdays: Out-of-hours work 0–3 hours / day

Sat: Out-of-hours work 0–5 hours + holiday work 0–13 hours / day

Example of work distribution by level of A-Wake

Example of a Doctor's Work Schedule under Level B

(Overtime/holiday work: equivalent to 1,200 hours per year)

15th Year After Graduation Urologist in a Community Hospital

 Out-of-hours / Holiday work
(counted toward working hours)

 Self-study / Research

Date	1	2	3	4	5	7	8	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	26	27	28	29	30
Day	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Mon	Tue
				On-call ↔								Off	Off			On-call ↔			Off	Off			On-call ↔			Off	Off		

Time	Mon	Tue	Wed	Thu	Fri	Sat	Sun
8:00	Inpatient Work	Meeting	Inpatient Work	Inpatient Work	Morning Conference	Inpatient Work (On-call day)	Leave (as allowed)
12:00	Surgery	Surgery	Outpatient Clinic (Referrals / Specialist Clinic)	Outpatient Clinic (Specialist Clinic)	Inpatient Work		
	Break / Lunch	Break / Lunch	Break / Lunch	Inpatient Work (Emergencies as needed)	Emergency Outpatient Care (EOC)		
	Inpatient Work		Surgery	Break / Lunch	Medical records / Chart review		
17:00	Outpatient Clinic (Specialist Clinic)		Inpatient Work		Inpatient Work		
	Summary & Medical Records		Morning Conference	Conference (Paper review)	Break / Lunch		
24:00		Surgery (Minor procedures)	On-call * Used depending on the day of the week	On-call * Used depending on the day of the week	Medical records	On-call Stay (No leave allowed)	On-call * 24-hour on-call depending on the day of the week
		Surgery-related records					
		Operative records					Reading / Writing (Reports, Papers)

Weekdays: Out-of-hours work 3 hours/day on average

Saturday: Out-of-hours work 5 hours/day on average

Holidays: Out-of-hours work 0-18 hours/day on average

This schedule corresponds to approximately 1,200 hours of overtime/holiday work per year (Level B).

Example of work distribution by level of A-Wake

Example of a Doctor's Work Schedule under C-2

(Overtime/holiday work: equivalent to 1,800 hours per year)

8th Year After Graduation Interventional Cardiologist in a Community Hospital

 Out-of-hours / Holiday work
(counted toward working hours)

 Self-study / Research

Date	1	2	3	4	5	6	7	8	9	11	10	12	13	15	15	13	16	19	25	27	22	23	24	25	26	27	28	29	30
Day	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue
				On-call ↔		Off				On-call ↔		Off	Off			On-call ↔		Off	On-call ↔							Off	Off		

Time	Mon	Tue	Wed	Thu	Fri	Sat	Sun
8:00	Conference	Conference	Conference / Case Review Meeting	Conference	Conference		Leave (no on-call)
	Outpatient Clinic		Inpatient Work (patients may be admitted)	Surgery	Surgery	Emergency Surgery	
	Break / Lunch		Break / Lunch	Break / Lunch	Break / Lunch		
12:00	Inpatient Work (patients may be admitted)	Surgery	Medical records / Chart review	Procedure (Interventional)	Inpatient Work (patients may be admitted)	Break / Lunch	
	Medical records / Chart review	Break / Lunch	* Self-study / Research	Inpatient Work (patients may be admitted)	Operative notes Video review	Symptom registration / Summary / Video review (Conference preparation)	On-call * 24-hour on-call depending on the day of the week.
17:00						Break / Dinner	
	Inpatient Work (patients may be admitted)	Inpatient Work		Treatment / Procedures (Interventional)	Inpatient Work (patients may be admitted)		
		Break / Dinner	Emergency Procedures (~26 hours)	Inpatient Work (patients may be admitted)	Break / Dinner	On-call Stay (no leave allowed)	
24:00	Medical records / Chart review	Operative notes Video review		Medical records / Chart review	Operative notes Video review		Reading / Writing (Reports, Papers)

Weekdays: Out-of-hours work 6 hours/day on average Saturdays: Out-of-hours work 0 hours + holiday work 0 hours (on average)

Holidays: Out-of-hours work 0-24 hours/day (on average)

Example of work distribution by level of A-Wake

Clinical Duties Are Crowding Out Research Time

The Crisis of Physician-Scientists in Japan

Heavy clinical workload leaves little time for research, **especially for younger physician-scientists.**

1. Japanese hospital physicians work long hours, mostly in clinical care

Average total working hours of full-time hospital physicians

50.1 h/week

43.8 h (87.5%)

Clinical care
(Inpatient care, outpatient care, procedures, on-call, etc.)



6.3 h (12.5%)

Research, teaching & other duties

50.1 h/week

Nationwide survey of 11,466 full-time hospital physicians (2022)

Kawakami K, et al. *J Occup Health*. 2023;65:e12450.

2. Limited research time for assistant professors at university hospitals



Weekly time for research
(Assistant Professors)

50%

of assistant professors at university hospitals have **≤5 h/week for research**

15%

of assistant professors at university hospitals have **NO research time**

MEXT "Survey on Working Conditions of University Researchers" (FY2023)

Yamamoto T, et al. *JMA J*. 2025;8(2):137-143.

3. Protected research time during working hours is rare



12%

of emergency physicians have **protected research time** during working hours

Median research time
(including outside working hours)

1 h/week

Nationwide survey of emergency and intensive care physicians (2022)

Kondo Y, et al. *J Intensive Care*. 2023;11:52.

4. The number of young physician-scientists is decreasing

Proportion of physician-scientists among all physicians in Japan

2.1% → **1.6%**
(1996) (2016)

Physician-scientists aged ≤39 years

↓ 48%
decrease over 20 years
(1996 → 2016)

Fang FC, et al. *Acad Med*. 2019;94(5):667-673.

The Vicious Cycle



Heavy clinical workload



Research time is squeezed out



Decline of young physician-scientists



Burnout, loss of motivation, threatening the sustainability of academic medicine

1. Kawakami K, et al. *J Occup Health*. 2023;65:e12450.

2. Yamamoto T, et al. *JMA J*. 2025;8(2):137-143.

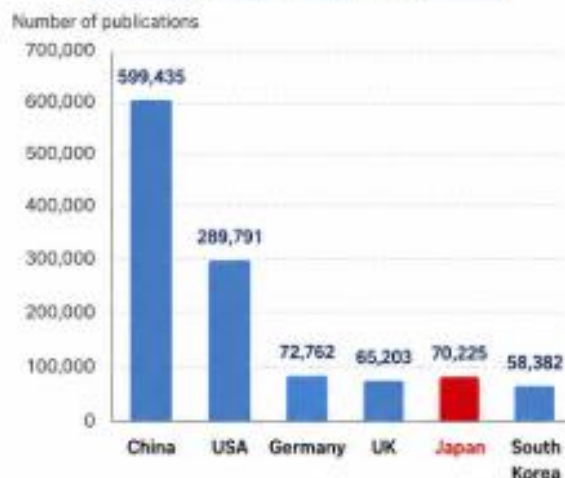
3. Kondo Y, et al. *J Intensive Care*. 2023;11:52.

4. Fang FC, et al. *Acad Med*. 2019;94(5):667-673.

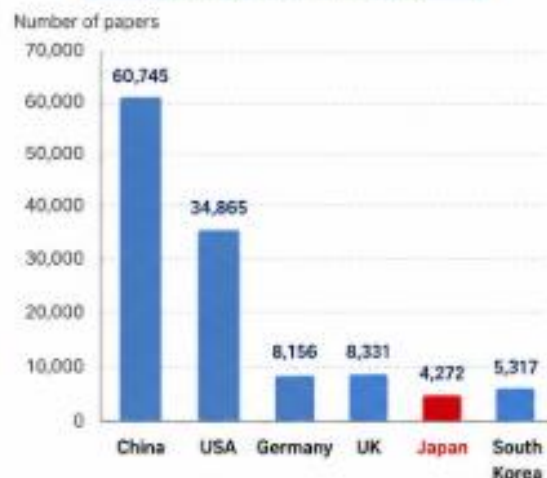
Scientific Publications and Highly Cited Papers: Japan vs. Other Countries

Average annual output during 2021–2023 | Fractional counting, natural sciences | Source: NISTEP, Science and Technology Indicators 2025; Clarivate Web of Science

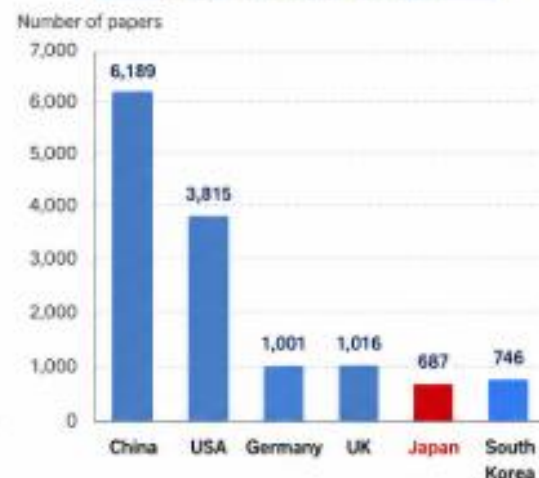
1. All Scientific Publications (Average annual number)



2. Top 10% Cited Papers (Average annual number)



3. Top 1% Cited Papers (Average annual number)



Global Rank (out of 230 countries/regions)	China	USA	Germany	UK	Japan	South Korea
All Scientific Publications	1st	2nd	4th	6th	5th	8th
Top 10% Cited Papers	1st	2nd	4th	5th	13th	10th
Top 1% Cited Papers	1st	2nd	6th	7th	12–13th*	11th



Japan ranks **5th** in the number of publications,
but drops to **12–13th** in the most highly cited papers (Top 1%).

* Clarivate (May 2026) reports Japan ranked 13th for highly cited papers.

Young Physician-Researchers in Japan: Too Busy to Do Research?

Negotiation for Improving Research Environment and Burnout

(Toyoshima et al., 2020)

This nationwide cross-sectional study explored **negotiations** with supervisors to improve research environment and their association with **research time** and **burnout**.

1. Study population



Young physician-researchers with KAKENHI grants aged ≤45 years in Japan



1,790 physicians were invited



490 responded (response rate 27.4%)



408 physicians were included in the analyses

2. Experience of negotiation with supervisor

Physicians who had negotiated (%)



Women

20–24% negotiated



Men

17–20% negotiated

Women showed a slightly higher tendency to negotiate than men. (No statistical test reported in the paper)

3. Factors associated with negotiation with supervisor (Significant factors)

Negotiation about
REDUCTION OF CLINICAL DUTIES
/ CAREER OPPORTUNITIES



Shorter research time (per week)



Higher patient-related burnout



More likely to negotiate with supervisors

Negotiation about
RESEARCH SPACE / EQUIPMENT
/ INCREASE IN RESEARCH FUNDING



Older age



Being single



Higher personal- and patient-related burnout



More likely to negotiate with supervisors



Take-home message

Young physician-researchers with **shorter research time** and **higher (especially patient-related) burnout** are more likely to negotiate with supervisors, particularly to **reduce clinical duties** and **improve career opportunities**.



Institutions should ensure sufficient research time and provide support to reduce burnout for sustainable research careers.

4.How do we cope with Workforce Sustainability?

Health Japan 21 (Third Term)

Health is Created by Social Environments

Health Japan 21 (2024–2035)



Individual behavior alone is not enough.



Health is shaped by:



Workplace



Community



Schools



Families

Health is not only an individual responsibility

KEY CONCEPT

Creating supportive social environments is a national health priority.

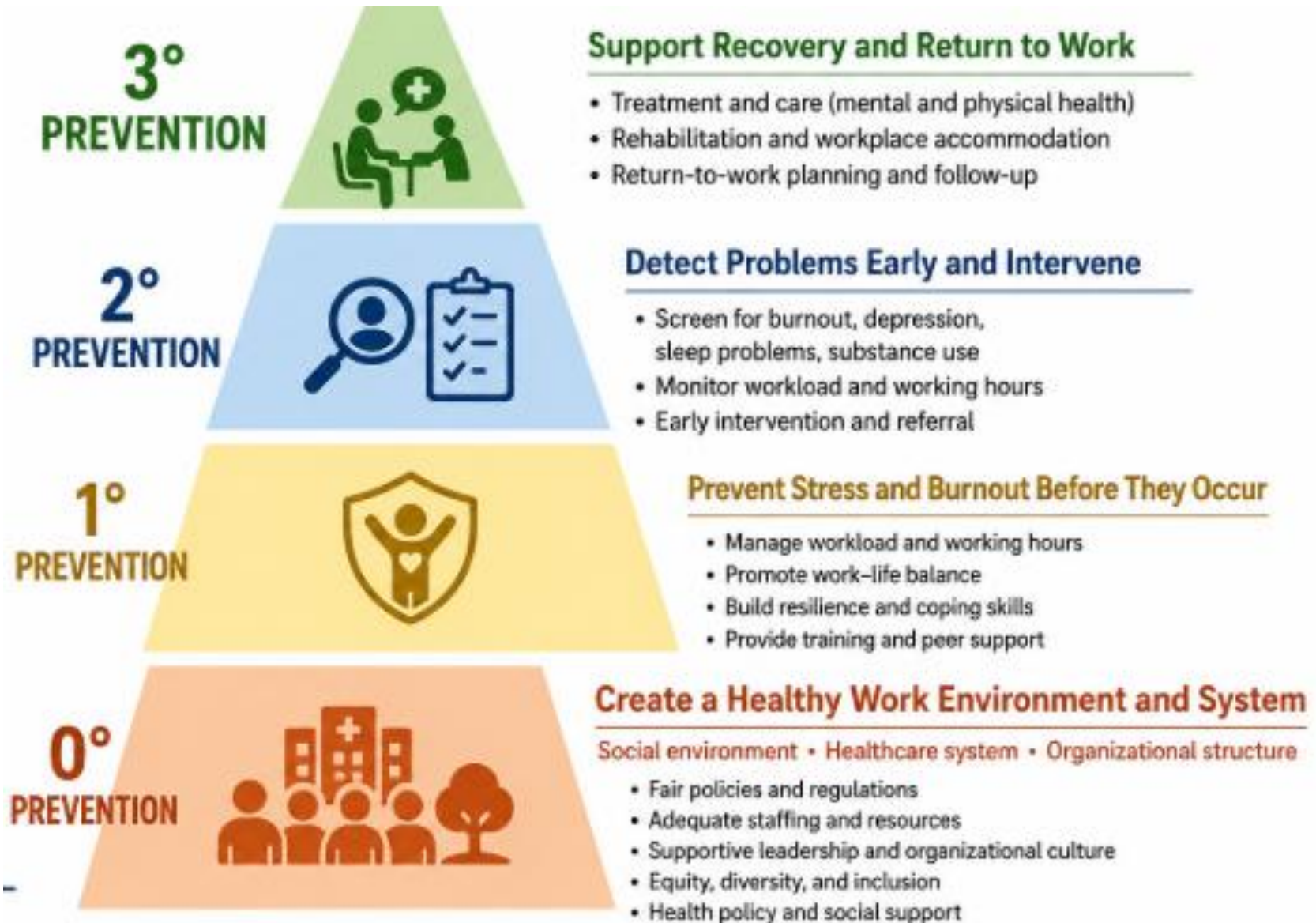
Social
determinants
of health
(SDH)

Health
Equity

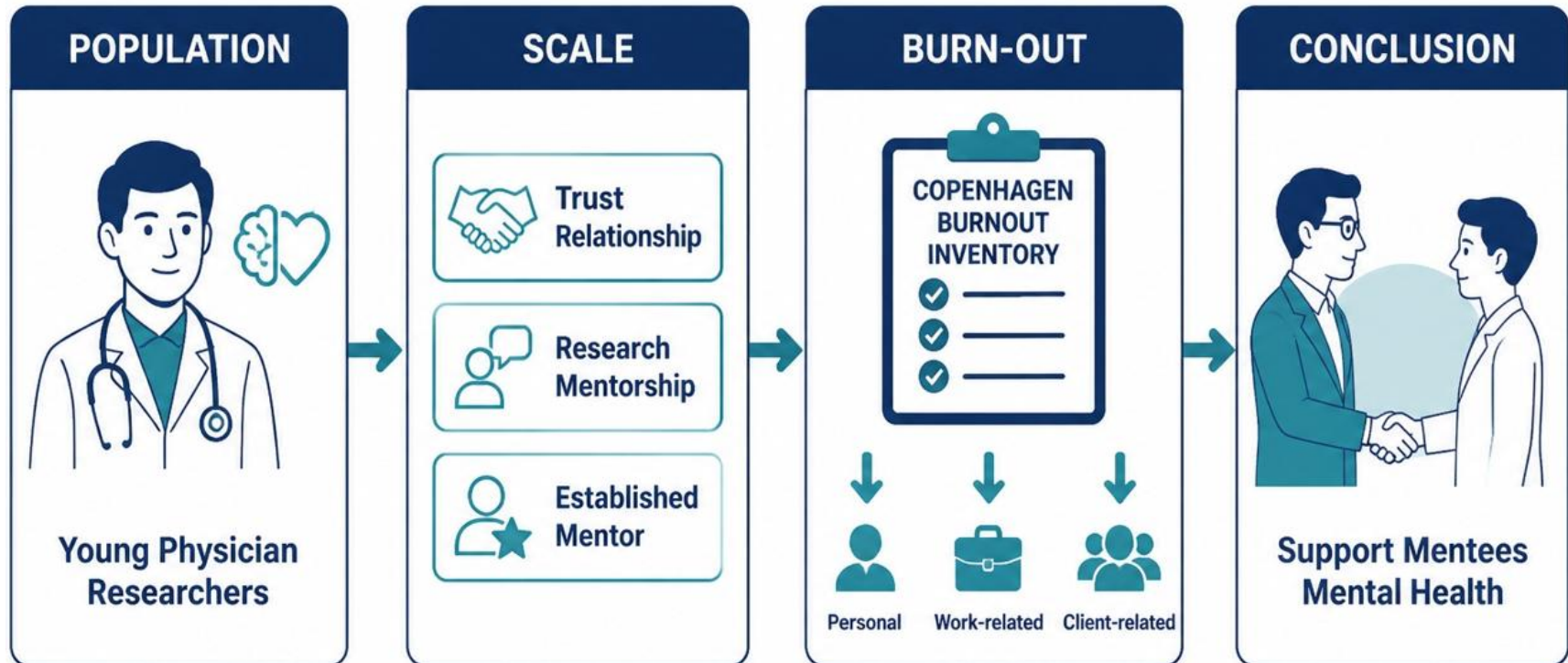
Healthy
Society



Four Level Public Health Prevention Strategy against sustainable workforce



One important factor is Good Mentorship to reduce the risk of burnout among young physicians



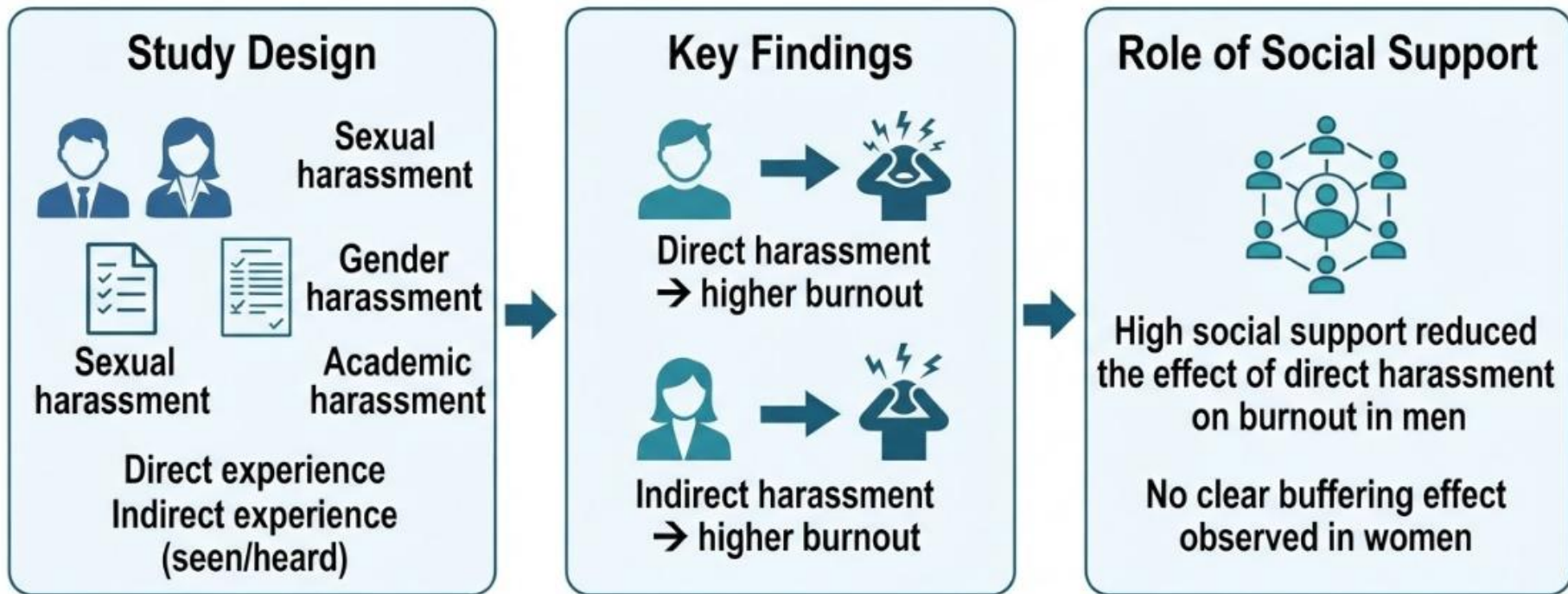
Scale Development for "Great Research Mentors" and Its Relationship to Mentees' Psychological Burnout in Young Physician Researchers.

Takenoshita S, Iwakura M, Nagasawa T, Nomura K.

Tohoku J Exp Med. 2024 Feb 23;262(2):51-62. doi: 10.1620/tjem.2023.J102. Epub 2023 Dec 21.

Harassment, Burnout, and Social Support in Japanese University Faculty

Cross-sectional survey of 330 academic faculty members

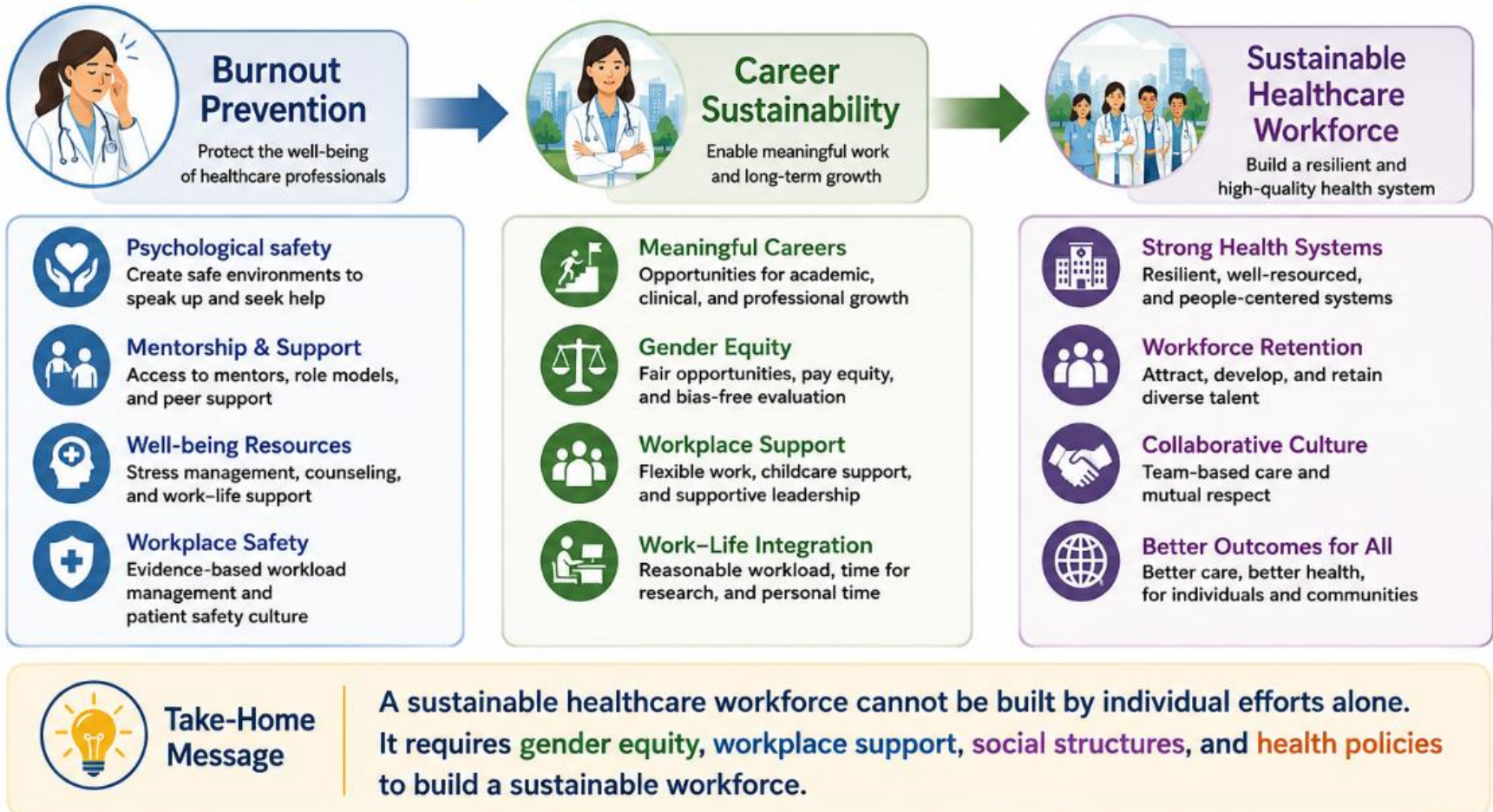


Type of harassment linked to burnout differed by gender.

Direct and Indirect Harassment Experiences and Burnout among Academic Faculty in Japan.
Takeuchi M, Nomura K, Horie S, Okinaga H, Perumalswami CR, Jaggi R.
Tohoku J Exp Med. 2018 May;245(1):37-44. doi: 10.1620/tjem.245.37.

From Burnout Prevention to a Sustainable Healthcare Workforce

— Building Sustainable Careers in Healthcare: Lessons from Japan —



Individual well-being → Career sustainability → Sustainable healthcare workforce
Working together for a healthier future.