



# Current Diversity Issues in Cardiovascular Workplaces in the Chugoku District

— Results From 2 Questionnaire Surveys —

Noriko Fukue, MD, PhD; Mari Ishida, MD, PhD; Makiko Taniyama, MD, PhD;  
Natsuko Mukai-Yatagai, MD, PhD; Takahiro Sakamoto, MD; Tomoko Tamada, MD, PhD;  
Yukiko Nakano, MD, PhD; Hiroshi Ito, MD, PhD; Shiro Uemura, MD, PhD

**Background:** Various issues, such as gender diversity and overwork, need to be considered in cardiovascular workplaces. Here, we report the results of 2 questionnaire surveys conducted among members of the Chugoku branch of the Japanese Circulation Society.

**Methods and Results:** The first questionnaire was posted to all 194 female members in 2018. Of the 73 respondents, 61.6% reported feeling that it would be difficult to continue in cardiovascular care. The second questionnaire was completed by participants of the Chugoku Regional Meeting in 2019. Of the 133 respondents, 42.4% reported difficulties continuing in cardiovascular care. Respondents reporting difficulties had a significantly lower mean age, a higher frequency of day and night shifts, and a higher rate of working >80 h/week than respondents who did not report such difficulties. In logistic regression analysis, working >80 h/week was the only independent factor associated with difficulties continuing in cardiovascular care (odds ratio 4.16; 95% confidence interval 1.46–11.9;  $P=0.008$ ). Although 47.4% of respondents worked >960 h overtime per year (considered a risk factor for death from overwork), 59.6% of these respondents reported being satisfied with their current situation.

**Conclusions:** In the Chugoku region, the work-life balance of medical personnel engaged in cardiovascular care has not been sufficiently secured. In order to promote diverse human resources, we need to recognize the current situation and continue to take countermeasures.

**Key Words:** Cardiology; Diversity; Workplace

Recently, diversity in the cardiovascular field has been actively promoted, given the proven effects of diversity on increasing innovation, group performance, financial performance and marketing reputation; improving decision making; creating a more robust talent pool; and encouraging deeper engagement and loyalty from consumers, members, and other constituencies by promoting diversity in all fields.<sup>1</sup> The Diversity Promotion Committee of the Japanese Circulation Society (JCS) has stated:

We will work to not only build up men and women but also to further diversity – in ages, occupations, country

of origin, academic society involvement, etc. – to foster mutual understanding and progress.<sup>2</sup>

The low proportion of female cardiologists worldwide remains an issue, with women accounting for 12% of cardiologists in Japan,<sup>3</sup> 14% in the US,<sup>4</sup> 15% in Australia and New Zealand,<sup>5</sup> and 10% in Saudi Arabia.<sup>5</sup> Several desirable effects have been reported with regard to the involvement of female cardiologists. For example, a large observational study found that outcomes for male and female post-myocardial infarction patients were similar when treated by female physicians, but that mortality was higher among female patients treated by male physicians.<sup>6</sup>

Received August 6, 2021; revised manuscript received October 19, 2021; accepted October 30, 2021; J-STAGE Advance Publication released online November 30, 2021 Time for primary review: 27 days

Department of Cardiology, Tokuyama Medical Association Hospital, Shunan (N.F.); Department of Cardiovascular Physiology and Medicine, Graduate School of Biomedical and Health Sciences, Hiroshima University, Hiroshima (M.I.); Department of General Medicine, Tamano Division, Dentistry and Pharmaceutical Sciences, Graduate School of Medicine, Okayama University, Okayama (M.T.); Department of Cardiology, Faculty of Medicine, Tottori University, Yonago (N.M.-Y.); Division of Cardiology, Faculty of Medicine, Shimane University, Izumo (T.S.); Cardiovascular Medicine, Kawasaki Medical University, Kurashiki (T.T., S.U.); Department of Cardiology, Hiroshima University, Hiroshima (Y.N.); and Department of Cardiovascular Medicine, Okayama University Graduate School of Medicine, Dentistry, and Pharmaceutical Sciences, Okayama (H.I.), Japan

H.I. is a member of *Circulation Reports*' Editorial Team.

Mailing address: Noriko Fukue, MD, PhD, Department of Cardiology, Yamaguchi Prefectural Grand Medical Center, 10077 Osaki, Hofu 747-8511, Japan. E-mail: nor46ygc@gmail.com

All rights are reserved to the Japanese Circulation Society. For permissions, please e-mail: cr@j-circ.or.jp  
ISSN-2434-0790



<b>Table 1. Demographics of Female Hospital Doctors With and Without Difficulties Continuing to Work in Cardiovascular Medicine</b>				
	<b>Total (n=43)</b>	<b>Continuing to work</b>		<b>P value</b>
		<b>Difficult (n=24)</b>	<b>Not difficult (n=19)</b>	
<b>Individual factors</b>				
Married	25 (58.1)	13 (54.2)	12 (63.2)	0.756
Married to a physician	14 (32.6)	8 (33.3)	6 (31.6)	1.000
Having children	16 (37.2)	9 (37.5)	7 (36.8)	1.000
<b>Working condition</b>				
Working hours				
>40 h/week	30 (69.8)	15 (62.5)	15 (78.9)	0.324
>60 h/week	12 (27.9)	7 (29.2)	5 (26.3)	1.000
>80 h/week	4 (9.3)	3 (12.5)	1 (5.3)	0.618
Night shift				
>2 times/month	15 (34.9)	10 (41.7)	5 (26.3)	0.349
>3 times/month	11 (25.6)	7 (29.2)	4 (21.1)	0.728
>4 times/month	5 (11.6)	3 (12.5)	2 (10.5)	1.000
<b>Work environment</b>				
Medical clerk	14 (32.6)	9 (37.5)	5 (26.3)	0.523
Multi-attending physicians	9 (20.9)	5 (20.8)	4 (21.1)	1.000
Exempt from regular work after night shift	5 (11.6)	1 (4.2)	4 (21.1)	0.153
Shift-work system	0 (0.0)			
Changing room for female physicians	27 (62.8)	15 (62.5)	12 (63.2)	1.000
On-call room for female physicians	11 (25.6)	8 (33.3)	3 (15.8)	0.294
Medical office and rest room for female physicians	7 (16.3)	4 (16.7)	3 (15.8)	1.000
<b>Items to support childcare and nursing care</b>				
Daycare center for children	27 (62.8)	13 (54.2)	14 (73.7)	0.221
Exemption from day and night duty	25 (58.1)	11 (45.8)	14 (73.7)	0.119
Shorter working hours	17 (39.5)	9 (37.5)	8 (42.1)	1.000
Exemption from night calls and waiting	16 (37.2)	7 (29.2)	9 (47.4)	0.341
Exemption from radiation procedures	13 (30.2)	4 (16.7)	9 (47.4)	0.046
Exemption from working overtime	13 (30.2)	7 (29.2)	6 (31.6)	1.000
Childcare rooms for sick children	10 (23.3)	6 (25.0)	4 (21.1)	1.000
Securing alternative cardiovascular physicians during leave	3 (7.0)	0 (0.0)	3 (15.8)	0.079
Work sharing	1 (2.3)	1 (4.2)	0 (0.0)	1.000
Provision of childcare services during night calls	0 (0.0)			
Nursing care leave	4 (9.3)	1 (4.2)	3 (15.8)	0.306
Paternity leave	6 (14.0)	1 (4.2)	5 (26.3)	0.072
Shorter working hours of male staff for childcare	3 (7.0)	0 (0.0)	3 (15.8)	0.079

Unless indicated otherwise, data are given as n (%).

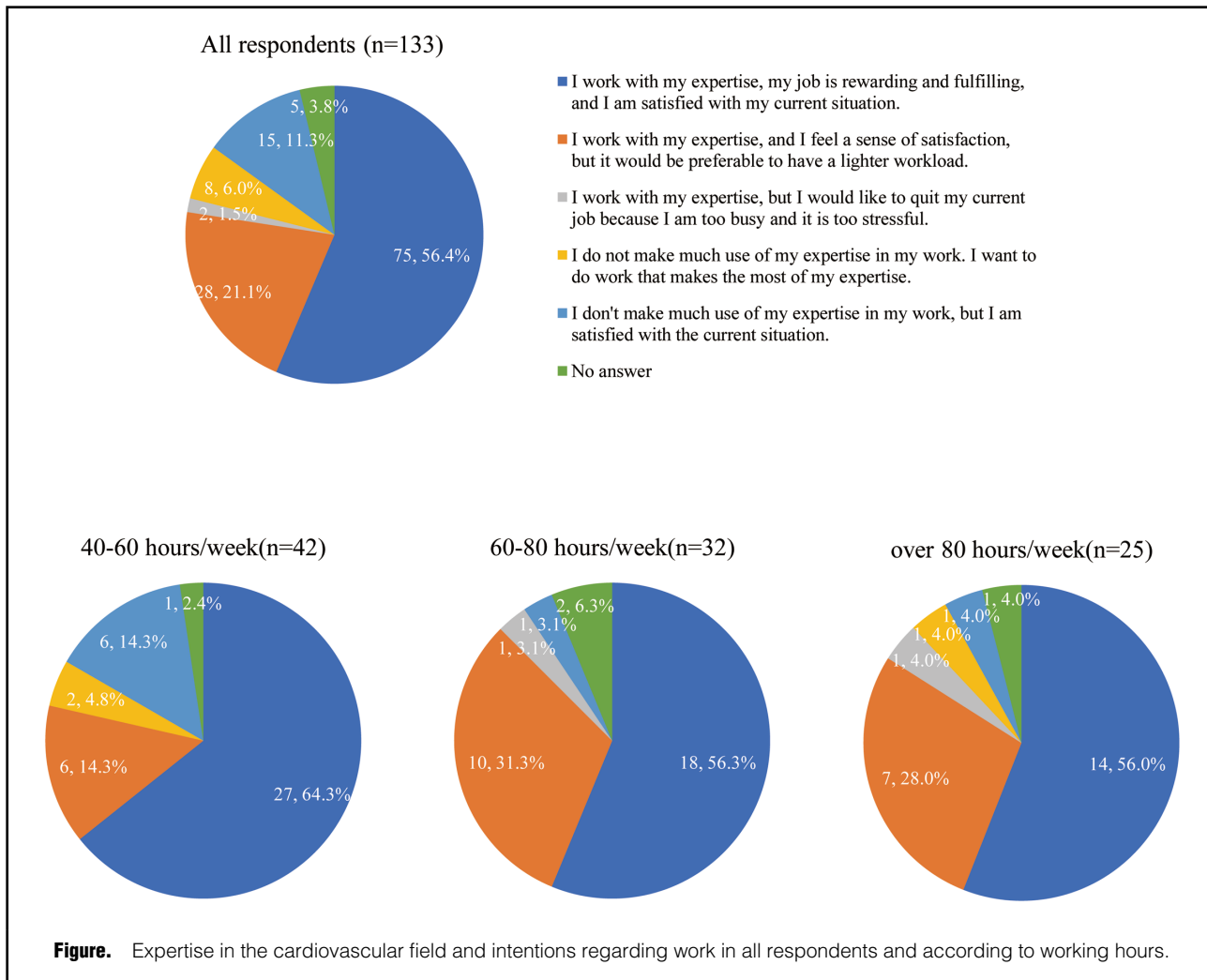
Other published research found that female physicians and cardiologists adhered more closely to guidelines and evidence-based practice, which may limit the impact of subjective frailty bias, spent more time communicating with their patients, which may limit the rates of non-adherence, depression, and failure to recognize or respond to symptoms, and had lower patient mortality and readmission rates than male physicians.<sup>6-8</sup> In Japan, Nakayama et al reported that the risk of emergency readmission after discharge in patients hospitalized with cardiovascular diseases was ameliorated when patients were treated by female mid-level cardiologists.<sup>9</sup>

In addition, it is difficult to secure human resources in the field of cardiovascular medicine in Japan, not only in terms of women, but also younger people, both men and women, in general. Many cardiologists suffer from overwork, and this has a negative effect on their health and overall well-being.

The Diversity Promotion Committee of the Chugoku Branch of the JCS was established in 2017 and started its activities in 2018. Over the past 3 years, the Diversity Promotion Committee has been working on various issues facing cardiovascular workplaces. This study reports on 2 questionnaire surveys conducted among members of the Chugoku branch of the JCS that addressed these issues. We also discuss the current issues that remain to be resolved in the Japanese cardiovascular healthcare work environment.

## Methods

The first survey was conducted by mail in February 2018 and was sent out to all 194 female members of the Chugoku branch of the JCS. The questionnaire asked about the working and life conditions of female members (as a workplace minority) in order to identify problems and seek



solutions. The survey included questions about respondents' occupation, work status, the installation of a working environment that was comfortable for female staff, marital status, number of children, and taking leave during pregnancy and childcare.

In November 2019, the working life status of all 496 participants of the Chugoku regional meeting was surveyed via the Question Paper Act. This questionnaire focused on gender and generational differences in participants' opinions on issues related to overwork and work-life balance. This survey included questions about respondents' occupation, work status, speciality, the installation of measures to reduce doctors' duty burden, complaints of different generations in the workplace, taking leave for childcare, experiences of nursing care, and desired working age.

**Statistical Analysis**

Respondents' backgrounds were compared using Fisher's exact test for categorical variables, unpaired t-tests for normative continuous data, and the Mann-Whitney U test for non-normative continuous data. Logistic regression analysis was used to analyze the rates of difficulty continuing to work for factors with P<0.05 in univariate analysis and according to sex. The Tukey-Kramer test was used to investigate correlations between working time and sleep

time. Differences between 3 groups (based on hospital type: university, public, and private hospitals) were evaluated using the Bonferroni test.

All statistical analyses were performed using EZR<sup>10</sup> in R. Specifically, EZR is a modified version of the R commander designed to add statistical functions frequently used in biostatistics. Two-sided P<0.05 was considered statistically significant.

**Results**

At the time of the first survey, 12.8% of all JCS members and 11.2% of the Chugoku branch were female. In all, 73 responses were received to the first survey (response rate 37.6%). Sixty-five physicians (89.0%) responded to the survey. Fifty-three respondents were engaged in cardiovascular medicine (72.6%), 59 were working full time (80.8%), and 43 were hospital doctors (58.9%). Of the respondents, 61.6% felt that it would be difficult to continue working in their current workplace. Specifically, respondents reported difficulties in engaging in cardiovascular care while being pregnant and raising children; gender differences, such as physical strength and the impact of menstruation; the burden of working in the cardiovascular field; prejudice and discrimination against women; and harassment in the

	Total (n=110)	Continuing to work		P value
		Difficult (n=47)	Not difficult (n=63)	
<b>Individual factors</b>				
Age (years)	51.1±11.0	48.1±10.5	53.4±11.0	0.013
Male sex	95 (86.4)	39 (83.0)	56 (88.9)	0.410
Married	97 (88.2)	38 (80.9)	59 (93.7)	0.070
Married to a physician	15 (13.6)	10 (21.3)	5 (7.9)	0.053
Having children	89 (80.9)	36 (76.6)	53 (84.1)	0.338
<b>Working condition</b>				
Working hours				
>40 h/week	98 (89.1)	44 (93.6)	54 (85.7)	0.229
>60 h/week	57 (51.8)	28 (59.6)	29 (46.0)	0.181
>80 h/week	25 (22.7)	18 (38.3)	7 (11.1)	0.001
Day and night shifts	2 (0–3)	2 (0–3)	0 (0–2)	0.017
Need to keep mobile phone on their person at all times	56 (50.9)	25 (53.2)	31 (49.2)	0.704
Engaging in interventional procedures	59 (53.6)	31 (66.0)	28 (44.4)	0.034
<b>Work environment</b>				
Medical clerk	54 (49.1)	25 (53.2)	29 (46.0)	0.563
Multi-attending physicians	47 (42.7)	17 (36.2)	30 (47.6)	0.249
Exemption from regular work after night shift	41 (37.3)	21 (44.7)	20 (31.7)	0.232
Task shifting and sharing	28 (25.5)	14 (29.8)	14 (22.2)	0.385
Standardization of HF and ACS treatment	16 (14.5)	7 (14.9)	9 (14.3)	1.000
Shift-work system	6 (5.5)	5 (10.6)	1 (1.6)	0.082

Unless indicated otherwise, data are given as the mean±SD or n (%). Age was compared using unpaired t-tests for normative continuous data. The number of day and night shifts (per month) was compared using the Mann-Whitney U test for non-normative continuous variables. Others variables were compared using Fisher's exact test for non-continuous variables. ACS, acute coronary syndrome; HF, heart failure.

	OR	95% CI	P value
Age	1.00	0.95–1.05	0.948
Male sex	0.41	0.10–1.66	0.209
Engaging in interventional procedures	1.49	0.53–4.16	0.449
Working >80h/week	4.16	1.46–11.90	0.008
Working day and night shifts	1.25	0.95–1.65	0.110

Logistic regression analysis was performed using factors that differed significantly on univariate analysis and between the sexes. CI, confidence interval; OR, odds ratio.

workplace. These survey results were posted on the Chugoku branch website.<sup>11</sup>

The characteristics of the female hospital doctors who reported difficulties continuing to work in their current workplace are presented in **Table 1**. Among respondents reporting difficulties, there was a significantly lower rate of exemptions from radiation procedures to support childbirth, childcare and nursing care.

The second survey, the Question Paper Act, was administered during the Chugoku regional meeting in 2019. The working life status of all 496 meeting participants was surveyed. There were 133 responses (response rate was 26.8%). Respondents were between 25 and 76 years of age (mean age 51.6 years), 114 (85.7%) were men, 128 (96.2%) were physicians, 119 (89.5%) were engaged in cardiovascular medicine, and 110 (82.7%) were hospital doctors. The results of the second survey were posted on the Chugoku branch website.<sup>12</sup> Among the respondents, 47.4% reported working more than 960 h overtime per year, which is rec-

ognized as the point associated with the risk of death due to overwork, and 20.3% of respondents had worked more than 1,860 h overtime per year at the provisional level of community health care (**Supplementary Figure 1**). Half the respondents had day and night shifts, with one-third working these shifts at least once a week. Half the respondents had on-call duties; among these respondents, 77.4% had to keep mobile phones and other means of communication on their person at all times. In all, 44.4% of respondents were engaged in invasive treatment; 66.1% were aged in their 40s and 50s, and 91.5% were men. On weekdays, the mean sleep time was as short as 6.0 h, and was 0.7 h longer on holidays. The mean sleep time decreased as working time increased. There were significant differences in sleep time on weekdays between those working <40 h/week and those working 60–80, 80–100, and 100 h/week, as well as between those working 40–60 h/week and those working 100 h/week (**Supplementary Figure 2**). Approval of the multi-attending physician system was high (81.2%). Of

note, 59.6% of those working >60h/week were satisfied with their current situation, even though these respondents felt that the work volume was too much compared with the group working 40–60h/week (33.3% vs. 14.3%; **Figure**). A total of 42.4% of all respondents, and 38.6% of men and 52.6% of women, felt that continuing cardiovascular care was difficult. The characteristics of the respondents who felt continuing to work in cardiovascular care was difficult are presented in **Table 2**. Respondents reporting difficulties had a significantly lower mean age, a higher frequency of day and night shifts, and a higher rate of working >80h/week. After logistic regression analysis, working >80h/week remained the only independent factor associated with difficulty continuing to work in cardiovascular care (odds ratio 4.16; 95% CI 1.46–11.9;  $P=0.008$ ; **Table 3**).

Comparisons among university, public, and private hospitals revealed no significant differences in satisfaction, excessive workload, and difficulty continuing to work in cardiovascular care. Significant differences were observed in not using expertise and working >100h/week between university and private hospitals (**Supplementary Figure 3**).

The most common complaint among the younger generation was the difficulty of taking a vacation or break, whereas the older generation complained that the younger generation did not want to work after-hours or on holidays.

Of the respondents, 83.5% had spouses. Compared with 90.0% of women who were reported being responsible for all household chores, 42.6% of men reported doing housework, although the type of housework was limited (e.g., simply cleaning). Although 62.4% of men reported that their partners were unemployed, the women's partners were mostly full-time workers, and 60.0% of them were physicians. Of the respondents, 75.9% had children. Few men took paternity leave, and even some women were either not able to take childcare leave or only took short periods of leave; 38.1% of men wanted to take paternity leave. Of the respondents, 21.1% had performed nursing care, with no marked difference between the sexes. Many of the respondents who had experience with nursing care experienced both mental and physical burdens because no measures had been put in place to reduce their job burden.

The mean age at which respondents wanted to retire from work was 71.4 years, and the most common reason for wanting to retire was their own health. As the age of the respondents increased, the age at which they wanted to retire also increased.

## Discussion

In this study, we conducted 2 questionnaire surveys among members of the Chugoku branch of the JCS.

Compared with the results of the previous JCS National Questionnaire of female members conducted in 2010, there was a lower percentage of respondents reporting difficulty in continuing work as cardiovascular physicians and medical professionals in the first survey in this study (61.6% vs. 69.8%); however, most female members felt that it would be difficult to continue their career because of both poor a working environment in cardiovascular medical care in Japanese hospitals and family circumstances. Female doctors tend to have difficulty working longer hours because their spouses are often busy doctors themselves, and the female doctors are responsible for childcare and chores at home. Such situations could make it difficult for young female doctors to pursue careers in the cardiovascular

field.

A survey of trainee doctors in the US reported that, compared with men, women placed a higher value on stable hours without overtime, a family- and female-friendly work environment, a focus on patients, and positive role models, although most differences between males and females were small.<sup>13</sup> In contrast, men placed a higher value on professional challenges and a stimulating career.<sup>13</sup> From this perspective, it is necessary to urgently improve the culture of overwork that is generally accepted as common within cardiovascular medical care.

Work style reform is progressing in the field of obstetrics and gynecology. According to surveys conducted by the Ministry of Health, Labour and Welfare, although there was a slight increase in the number of female doctors in cardiovascular medicine from 1,406 (11.7%) in 2014 to 1,542 (12.1%) in 2018, there has been a significant increase in the number of female doctors in obstetrics and gynecology, from 3,527 in 2014 (33.3%) to 4,064 (37.7%) in 2018.<sup>3,14</sup> The work environment in obstetrics and gynecology has been improved earlier than in cardiovascular medicine because of the large number of females working in this field.

The results of the second survey were announced at the first online local meeting of the Chugoku branch of the JCS in December 2020; a hospital female doctor engaged in work style reforms and an obstetrician and gynecologist who is working on advanced initiatives delivered lectures at this meeting. Of note, this doctor was surprised at the high rate of cardiologists constantly on-call: the obstetrics and gynecology department of her hospital had adopted a team system of doctors being in charge, and calls from the hospital were not taken on holidays. In addition, there were further work style reforms, such as holding conferences during business hours, not working on their-the-right, and taking paid leave twice a month. In addition, female doctors with children who cannot work nights can reduce the work burden of other doctors by taking day shifts on holidays. Compared with departments of surgery, the multi-attending physician system is not very advanced in departments of internal medicine, but there was high approval among respondents to the second survey for the introduction of this system. It is thought that the multi-attending physician system can progress smoothly if the main attending physician for each patient within the team of doctors is decided.

According to the present data, most respondents were satisfied with their current situation, despite their long working hours. Doctors are thought to choose to work in the field of cardiology because of a marked work interest. A recent study in the US discussed this point.<sup>13</sup> Differences in almost every aspect of the perception of cardiology were noted between trainees who chose cardiology for their fellowship and those who did not. Cardiology trainees reported more positive feelings and were less likely to report having been discouraged from considering cardiology as a career or to consider cardiology male dominated or lacking in racial/ethnic diversity than others.<sup>13</sup> Although it is impossible to determine whether these differences resulted from or drove trainees' choices, it is likely that such stereotypes can and do shape decisions regarding cardiology culture and fit, even without conscious awareness.<sup>13</sup> Paradoxically, these factors and cardiologists' eagerness to work seem to prevent or slow the advent of improvements in the cardiovascular workplace. Physicians at university hospitals may

get job satisfaction due to the high use of their expertise, although the working hours are too long. Conversely, working >80 h/week was the only independent factor associated with difficulty continuing to work in cardiovascular care, and it was considered to be the most crisis state. In the present study, there was no correlation between measures to reduce the burden on doctors and difficulty continuing to work. In any case, measures to reduce the burden had not been sufficiently implemented. Implementing such measures in cardiovascular workplaces should be promoted, in addition to efforts to shorten working hours. Long working hours lead to a reduction in sleep time. Tokuda et al reported that sleep time was more likely to be related to job satisfaction among female physicians, but less among male physicians.<sup>15</sup> In Japan, most hospitals do not support flexible ways of working, which poses difficulties in balancing work and family life.<sup>16</sup> To promote diversity in the workplace, it is necessary to alter the consciousness of cardiovascular physicians, especially managers in the cardiovascular area, which will foster an improvement in workplace culture. In addition, a direct association has been demonstrated between workload and depression among physicians.<sup>17</sup> At a mean of 50–70 h/week, the working hours of most physicians may be associated with a higher prevalence of depression.<sup>17</sup> In addition, cardiovascular physicians not only have prolonged working hours, but also a psychological burden dealing with highly urgent life-threatening conditions in patients. In Japan, Korea, and Taiwan, cerebrovascular and cardiovascular diseases can be caused by overwork alone; in addition, it is recognized that underlying conditions, such as hypertension, atherosclerosis, and diabetes, in those experiencing work-related cerebrovascular and cardiovascular diseases, can be significantly aggravated by overwork, especially the accumulation of fatigue caused by long working hours.<sup>18</sup> Ironically, many cardiologists who provide cardiovascular care continue to be at risk of cardiovascular diseases themselves.

In Japan, since the start of the doctor training system in 2004 it has become difficult to secure young doctors in rural areas. In addition, with the introduction of the physician specialist system in 2017, it takes time and effort for young physicians to become cardiovascular specialists. Thus, securing younger doctors as a human resource is difficult throughout Japan.

Douglas et al reported that among professional development needs, stable hours, family friendliness, and having a role model were more highly rated than career-specific factors, such as professional challenges, patient focus, and a stimulating career.<sup>13</sup> Although this may seem counter to older generations' career expectations (and perhaps even pride in working long hours), physicians from Generation X (born between 1964 and 1980) and the millennial generation (born between 1980 and 1999), the groups that primarily made up the survey groups, valued work-life balance, were comfortable with career changes or mobility, and were team oriented rather than hierarchical or workaholics, which are characteristics more common among baby boomers (born between 1945 and 1964).<sup>13</sup> Based on the survey results, we should first aim to establish secure holidays and rest for younger generations in order to recruit such doctors and maintain their employment.

Regarding the aspect of satisfaction in the cardiovascular workplace, consolidating doctors and hospitals is desirable. Engaging in highly specialized medical care is one of the

attractive points of the cardiovascular field. If it becomes impossible to hire a sufficient number of cardiologists due to local circumstances, then universities should consider providing cardiologists on a rotational basis.

Given the shortage of medical professionals, the work style of elderly cardiologists is also important. We should therefore establish a working environment in which experienced elderly cardiologists can continue to engage in cardiovascular care with a reduced mental and physical burden. In Japan, which has the most rapidly aging society in the world, the Japanese National Plan for the Promotion of Measures Against Cerebrovascular and Cardiovascular Disease (Japanese National Plan) was published by the Ministry of Health, Labour and Welfare on October 27, 2020, based on the *Cerebrovascular and Cardiovascular Disease Control Act*.<sup>19</sup> To advance these initiatives, a wealth of human resources is required. In addition, the COVID-19 pandemic has redirected many cardiologists to providing COVID-19 care. Overworking seems to be becoming more and more serious, and women and young cardiologists are the most vulnerable.<sup>20</sup> To recruit and retain doctors and medical staff under such conditions, it is urgent that the working environment in the field of cardiovascular medicine, as well as in all other fields of medical care, is improved.

The Diversity Promotion Committee will continue to work to reduce barriers to diversity and improve the climate for diversity in the cardiology workforce.

### Study Limitations

Several limitations associated with the present study warrant mention. The surveys conducted by the Committee were administered at the local branch level to a limited number of people. Thus, the study may have been affected by regional specificity. Respondents were also likely to be individuals with a high interest in diversity and may not fully represent the local situation. However, these results are still felt to be in line with the actual situation.

### Conclusions

Over 3 years of Diversity Promotion Committee activities in the JCS Chugoku branch, we have been dealing with problems in our workplaces, such as gender diversity, the issue of overworking, and generational differences regarding work-life balance. In the Chugoku region, the work-life balance of medical personnel engaged in cardiovascular care has not been sufficiently secured. In order to promote diverse human resources, we need to recognize the current situation and continue to take countermeasures, including periodic surveys, publication of the results, and negotiations with hospital owners.

### Acknowledgments

The authors thank former Branch President Yasuki Kihara for supporting this Committee's activities. The authors also extend their appreciation to those members who cooperated with the surveys and Junko Otsubo of the Chugoku Branch Secretariat.

### Sources of Funding

This activity was funded by the Chugoku branch of the JCS.

### Disclosures

H.I. is a member of *Circulation Reports*' Editorial Team. The other authors report no conflicts of interest.

### IRB Information

Respondents at the time of the survey were informed of the publication of the survey results, which were obtained with the consent of the individual. The study protocol was approved by the Ethics Committee of Tokuyama Medical Association Hospital (Approval no. 9), and conformed to the provisions of the Declaration of Helsinki. The requirement for written informed consent was waived by the Ethics Committee because the study involved record review only.

### Data Availability

The data will not be shared because they include personally identifiable and sensitive content.

### References

- American College of Cardiology. American College of Cardiology diversity and inclusion initiative. <https://www.acc.org/~media/Non-Clinical/Files-PDFs-Excel-MS-Word-etc/About%20ACC/Diversity/2018/03/Diversity-Inclusion-Strategy-Summary.pdf> (accessed July 29, 2021).
- Diversity Promotion Committee – the Japanese Circulation Society [in Japanese]. <http://www.j-circ.or.jp/information/kyodo/> (accessed July 29, 2021).
- Ministry of Health, Labor and Welfare, Japan. 2018 Statistics of physicians, dentists and pharmacists [in Japanese]. <https://www.mhlw.go.jp/toukei/saikin/hw/ishi/18/dl/gaikyo.pdf> (accessed July 29, 2021).
- Ortega RF, Mehran R, Morice MC. The opportunity of woman as one. *J Am Coll Cardiol* 2020; **2**: 2044–2046.
- Burgess S, Morice MC, Alasnag M, Grines C, Mehran R, Zaman S. Women and cardiology: The value of diversity. *Heart, Lung and Circulation* 2021; **30**: 3–5.
- Greenwood BN, Carnahan S, Huang L. Patient–physician gender concordance and increased mortality among female heart attack patients. *Proc Natl Acad Sci USA* 2018; **115**: 8569–8574.
- Burgess S, Shaw E, Ellenberger K, Thomas L, Grines C, Zaman S. Women in medicine: Addressing the gender gap in interventional cardiology. *J Am Coll Cardiol* 2018; **72**: 2663–2667.
- Tsugawa Y, Jena AB, Figueroa JF, Orav EJ, Blumenthal DM, Jha AK. Comparison of hospital mortality and readmission rates for Medicare patients treated by male vs female physicians. *JAMA Intern Med* 2017; **177**: 206–213.
- Nakayama A, Morita H, Fujiwara T, Komuro I. Effect of treatment by female cardiologists on short-term readmission rates of patients hospitalized with cardiovascular diseases. *Circ J* 2019; **83**: 1937–1943.
- Kanda Y. Investigation of the freely available easy-to-use software “EZ” for medical statistics. *Bone Marrow Transplant* 2013; **48**: 452–458.
- Survey on working and life conditions of women members of Chugoku branch 2018 [in Japanese]. [http://jcs-chugoku.umin.jp/pdf/female\\_questionnaire.pdf](http://jcs-chugoku.umin.jp/pdf/female_questionnaire.pdf) (accessed July 29, 2021).
- Survey on actual working and life conditions and intentions of participants of the 115th Annual Meeting of the Japanese Circulation Society of Chugoku 2019 [in Japanese]. <http://jcs-chugoku.umin.jp/pdf/HP2019diversity.pdf> (accessed July 29, 2021).
- Douglas PS, Rzeszut AK, Bairey Merz N, Duvernoy CS, Lewis SJ, Walsh MN, et al. Career preferences and perceptions of cardiology among US internal medicine trainees: Factors influencing cardiology career choice. *JAMA Cardiol* 2018; **3**: 682–691.
- Ministry of Health, Labor and Welfare, Japan. 2014 Statistics of physicians, dentists and pharmacists [in Japanese]. <https://www.mhlw.go.jp/toukei/saikin/hw/ishi/14/dl/gaikyo.pdf> (accessed July 29, 2021).
- Tokuda Y, Hayano K, Ozaki M, Bito S, Yanai H, Koizumi S. The interrelationships between working conditions, job satisfaction, burnout and mental health among hospital physicians in Japan: A path analysis. *Ind Health* 2009; **47**: 166–172.
- Inoue Y, Izumi C. You want to see a female doctor: But unluckily there’s a lack in Japan. *Circ J* 2019; **83**: 1842–1843.
- Tomioka N, Morita N, Saeki K, Okamoto N, Kurumatani N. Working hours, occupational stress and depression among physicians. *Occup Med* 2011; **61**: 163–170.
- Park J, Kim Y, Cheng Y, Horie S. A comparison of the recognition of overwork-related cardiovascular disease in Japan, Korea and Taiwan. *Ind Health* 2012; **50**: 17–23.
- Kuwabara M, Mori M, Komoto S. Japanese national plan for promotion of measures against cerebrovascular and cardiovascular diseases. *Circulation* 2021; **143**: 1929–1931.
- Shimbo M, Nakayama A. The vulnerable cardiologists of the COVID-19 era. *Int Heart J* 2021; **62**: 465–469.

### Supplementary Files

Please find supplementary file(s);  
<http://dx.doi.org/10.1253/circrep.CR-21-0111>