



Factors Encouraging Internal Medicine Specialists in Japan to Move towards Certification as General Practitioners

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In Japan, a new medical specialist system started in 2018 and has established the “Comprehensive Medical Specialist” program. The Japan Medical Agency allows specially-appointed supervisors, such as specialists in particular branches of internal medicine, to transfer to the “general practitioner” program. These specialists are often considered as reserve general practitioners. In April 2016, we conducted a survey of 2,666 randomly selected specialists in 11 societies related to the Japanese Society of Internal Medicine. Of the 404 who responded (15.2% response rate), 142 (35.1%) were “certification-oriented.” Logistic regression analysis with the outcome of desire for certification as a general practitioner (yes = 1) showed odds of 2.293 (95% confidence interval: 1.379-3.811) for “cannot take the necessary time to prepare” and 12.417 (95% confidence interval: 2.856-53.986) for “should be eligible to take the exam without leaving my current job.” Creating an environment that allows specialists in internal medicine across various specialties to prepare for certification as a general practitioner, while continuing to work in their current positions, would help to increase the number of high-quality general practitioners to supply the need in Japan.

Keywords: board-certified internists; general practitioner; Japanese Medical Specialty Board; primary care training; specialist to generalist transfer

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Introduction

In recent years, Japan has been facing a serious shortage of physicians. This, combined with a rapid increase in the number of older people, has created a need for “general practitioners,” who can treat multiple common diseases, provide home care, and determine the need for specialized care (Ministry of Health, Labour and Welfare of Japan 2013). In Japan, however, general practice has not traditionally been seen as a specialty. In 2018, a new medical specialist system started, and general practice is now the nineteenth specialty in the field of clinical medicine (Japan Medical Specialists Organization 2016). For general practice to function effectively in the future, it is necessary to

secure a sufficient number of general practitioners of a certain level of quality.

Young people are expected to naturally enter the field, and interest in general practice among the younger generation has been steadily increasing (Kimura et al. 2012). However, at present, only approximately 250 physicians apply to the general practitioner program each year. This is likely to mean that the number of physicians who are qualified as general practitioners will not be sufficient to address future need for these services (Japan Medical Specialty Organization 2022a). We have been working on the development of a new program of general practice in Japan to attract the next generation of general practitioners.

Previously, physicians in various departments of local

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clinics and hospitals have been responsible for the provision of primary care in Japan. We believe that they will continue to be important in this area as physicians who deal with multiple common diseases and determine the need for specialized care. It is important to ensure that licensed physicians receive a defined level of training and reach a particular level of quality, and this also applies to general practice.

We believe that it may be effective to encourage internal medicine specialists to move into general practice, for several reasons. First, these specialists have already completed the training in internal medicine required by general practitioners under the new medical specialist system (Ministry of Health, Labour and Welfare of Japan 2013). Second, in Japan, it is common for physicians to become general practitioners as a career choice either when they start practicing or when they begin working at local hospitals or clinics (Kimura et al. 2012). A report from the Ministry of Health, Labour and Welfare of Japan (2013) on the role of general practitioners states, “Unlike specialists in other basic medical specialties, ‘general practitioners’ need to have a separate discussion on the transition from other fields to general practitioners and their programs, in addition to the course that doctors take immediately after completing their clinical training.” It is therefore necessary to discuss transition from other fields to general practice. The Japanese Medical Specialty Board has established rules for the transition of specially-appointed supervisors of general practitioners, such as internal medicine physicians who are qualified as specialists in a particular area of medicine, to general practitioners. It has also established a program for the transition of these doctors to general practice (Japan Medical Specialty Organization 2022b).

Currently, the Special Board Certification Examination for General Practitioners is held by the Japanese Medical Specialty Board. The factors that influence whether internal medicine specialists choose to become certified as general practitioners are currently unknown, but clarification of the background of those who make this decision would be useful in establishing training programs that take these issues into consideration. Our position is that physicians transitioning from internal medicine specialties to general practice should receive a certain level of training to ensure quality. A previous qualitative study examined the career transition of hospital-based internal medicine physicians with specific medical specialty certification to general practice and found that “high-quality training under realistic conditions” was a facilitating factor (Kimura et al. 2017). This study therefore aimed to investigate and quantitatively clarify the factors that influence the intention of internal medicine physicians to become certified as general practitioners.

Materials and Methods

Participants

A questionnaire-based, unregistered survey was con-

ducted from January to April 2016 using the postal method. Japan’s new medical specialist system finally started in April 2018, but at the time of the survey, it was scheduled to begin in April 2017.

The participants were members of one of 11 of the 13 societies related to the Japanese Society of Internal Medicine, all of whom publish a list of specialists. These societies are the Japanese Society of Cardiology, the Japanese Society of Nephrology, the Japanese Respiratory Society, the Japanese Society of Hematology, the Japanese Neurological Society, the Japanese Society of Allergy, the Japanese College of Rheumatology, the Japanese Society of Infectious Diseases, the Japanese Diabetes Society, the Japanese Society of Geriatrics, and the Japanese Society of Hepatology. Overall, 2,666 physicians were qualified as specialists in one of these areas, and we selected one in 20 from the lists using a random number table (Japanese Society of Internal Medicine 2017).

Questionnaires

The questionnaire consisted of 29 questions over nine pages. The items included the desire for certification as a general practitioner, perceptions of general practice, respondents’ personal characteristics, and questions for other studies. The front cover of the questionnaire stated that the purpose of the survey was to investigate the respondents’ views on certification as a general practitioner and the training required for this. The questions were based on the qualitative research that preceded this study. The characteristics of general practitioners compared to other specialists were provided by the Ministry of Health, Labour and Welfare, and the clinical content and knowledge required of general practitioners was provided by the Japan Primary Care Association (Japan Primary Care Association 2013; Ministry of Health, Labour and Welfare of Japan 2013; Kimura et al. 2017). The following items were used for the analysis in this study:

(1) Perceptions about the desire for certification as a general practitioner

Respondents were asked about their desire for certification as a general practitioner under the new medical specialist system using a five-point scale: “strongly agree,” “somewhat agree,” “undecided,” “somewhat disagree,” and “strongly disagree.”

(2) Knowledge about general practice

The respondents were asked about five items on the conditions for certification as a general practitioner (Supplementary Material: Appendix 1). They also answered 5 items on ideas about general practice in the new medical specialist system (Appendix 2), 16 items about the characteristics of general practitioners compared to other specialists (Appendix 3), and 25 items on the clinical tasks to be performed by general practitioners (Appendix 4). All these items used a Likert-type scale ranging from 1 “totally

disagree” to 5 “totally agree.”

(3) Characteristics of respondents

Respondents were asked about their sex, age, marital status (unmarried or married), whether they had children, and their current medical specialty certification from 13 societies related to the Japanese Society of Internal Medicine. We also asked about work characteristics, such as place of work (hospital or clinic), working hours per week (hours), work type (full-time or part-time), and whether or not they were on duty.

Ethical considerations

The study was approved by the Ethical Review Committee of Kitasato University School of Medicine, the previous site of the first author (review number: B15-118). The cover page of the questionnaire contained an outline of the survey, purpose, privacy protection, and contact information. Consent was considered to have been given by returning the questionnaire.

Data analysis

We analyzed data from all those who responded about certification as a general practitioner, which was the main outcome of the study, and who indicated that they were certified as a specialist in one or more of the 13 societies affiliated with the Japanese Society of Internal Medicine.

Respondents who answered either “strongly agree” or “somewhat agree” to the main outcome, “wish to be certified as a general practitioner,” were classified as wanting to be certified as a general practitioner. Those who answered “neither agree nor disagree,” “somewhat disagree,” or “totally disagree” were classified as “No desire for certification.”

The respondents were asked about the conditions for certification as a general practitioner, their ideas about general practitioners in the new medical specialist system, and the characteristics of general practitioners compared to other specialists. The results were dichotomized into “agree” (1 to 2 points) and “otherwise” (3 to 5 points) for characteristics of general practitioners compared to other specialists. These variables, plus views on the duration of training required for certification as a general practitioner (months) and the respondents’ personal characteristics, were used to determine whether there were differences between the respondents who did and did not want to be certified as a general practitioner. The results were compared using the chi-square test, Fisher’s direct probability test, and t-test to see if there was a difference between the two groups. The means $\pm$ standard deviations of the scores for each of the clinical tasks to be performed by the general practitioner ranged from 1 (totally disagree = 1 point) to 5 (strongly agree = 5 points), and the difference was tested for each group.

For the 16 dichotomized items of the characteristics of general practitioners compared to other specialists, we cal-

culated a score (maximum of 16 points) for characteristics of general practitioners. Each “agree” was given 1 point and “otherwise” was given 0 points. The scores (out of 16 points) of the characteristics of a general practitioner were calculated, and binary variables of the characteristics of a general practitioner with scores below and above the 50th percentile were created. The 50th percentile of the characteristics of a general practitioner score (16-point scale) was 12, and the binary variables for characteristics of a general practitioner were less than 12 (0 to 11 points) and more than 12 (12 to 16 points), so the dichotomous variables were defined as less than 12 points (0 to 11 points) and 12 points or more (12 to 16 points). The desire for certification as a general practitioner (yes = 1) was used as the outcome. Variables with $p < 0.1$ in a two-group comparison of those who did and did not wish to be certified as a general practitioner for conditions for certification as a general practitioner and ideas about general practitioners in the new medical specialist system were used as the independent variable. Odds ratios and 95% confidence intervals were calculated by logistic regression analysis using the binary variable of characteristics of general practitioners compared to other specialists and the respondent’s personal characteristics as explanatory variables. A stepwise method was used in the multivariate model, and sex and age were forced entries. A two-tailed test was used, with a significance level of 5% or less, and SAS Ver. 9.4 was used as the statistical package.

Results

There were 501 valid responses (18.7% response rate). Of these, 87 did not respond on the main outcome on desire for certification as a general practitioner and 10 responded that they were not currently certified as a specialist in any of the 13 societies affiliated with the Japanese Society of Internal Medicine. The analysis therefore included 404 respondents.

Desire for certification as a general practitioner

The respondents who answered “strongly agree” ($n = 51$, 12.62%) or “somewhat agree” ($n = 89$, 22.03%) about their desire to be certified as a general practitioner were included in the “Yes” group. The number of respondents in the “Yes” group was 140 (34.7%). The “no desire for certification” group, who responded “neither agree nor disagree” ($n = 60$, 14.7%), “slightly disagree” ($n = 127$, 31.44%), or “totally disagree” ($n = 77$, 19.06%), consisted of 264 respondents (65.3%).

Conditions for certification as a general practitioner and thoughts on general practice by desire for certification as a general practitioner (Table 1)

Overall, 79 (56.43%) of the respondents in the group wishing to be certified selected “It is hard to make time to prepare for certification,” which was significantly higher than the 96 (36.64%) of the respondents in the group who

did not wish to be certified ($p = 0.0001$). The number of respondents who agreed that “Medical fees should be increased” was 94 (36.02%) among those who wished to be certified, which was statistically significantly lower than the 75 (53.57%) who did not want to be certified ($p = 0.0007$). Overall, 135 (97.12%) respondents in the group wanting certification agreed that “You should be able to take the examination without quitting your current job,” which was again statistically significantly higher than the 213 (81.3%) in the group who did not want certification ($p < 0.0001$). The number of respondents who agreed that “It should be easier to obtain certification” was 132 (94.3%) among those who wished to be certified, and 246 (93.5%) among those who did not wish to be certified. In both groups, 90% had high recognition, which was not statistically different ($p = 0.7664$).

The percentage of respondents who did not understand what general practice meant was higher among those who did not want to be certified (156, 59.5% vs. 50, 35.71%, $p < 0.0001$). More than half of the respondents ($n = 82$, 58.99%) who wished to be certified and less than half ($n = 123$, 48.81%) of those who did not want to be certified agreed that “Primary care can be practiced without being qualified as a general practitioner” ($p = 0.0536$).

The number of respondents who agreed that “Public awareness of general practitioners is low” was 122 (87.14%) among those who wished to be certified, and 223 (85.11%) among those who did not want to be certified. In both groups, over 80% had high recognition, which was not statistically different ($p = 0.5786$).

Characteristics of general practitioners by desire for certification (Table 2)

Overall, 123 (87.86%) of respondents who wished to be certified agreed with the statement that general practitioners should treat routine complaints and problems without regard to sex or age. This was statistically significantly higher than the 192 (73.28%) in the group of respondents who did not wish to be certified ($p = 0.0007$). Similarly, more respondents from the group who wanted to be certified agreed that general practitioners should provide treatment for routine complaints and problems without regard to organ system (130, 92.86% vs. 219, 83.59%, $p = 0.0089$), use social resources such as various systems and facilities in an appropriate and balanced manner (120, 85.71% vs. 193, 73.66%, $p = 0.0056$), cooperate with local residents for local medical care (116, 82.86% vs. 192, 73.28%, $p = 0.0307$), and provide sufficient explanation and communication to patients (110, 78.57% vs. 178, 67.94%, $p = 0.0242$).

The number of respondents who agreed that general practitioners should be “Easily accessible after hours and at night” was 54 (38.57%) among those who wished to be certified, and 112 (42.75%) among those who did not want to be certified. In both groups, less than 50% had low awareness, which was not statistically different ($p = 0.4178$).

Clinical tasks that general practitioners should perform, by desire for certification (Table 3)

The score for “Treatment and prevention of lifestyle-related diseases” was 4.14 ± 0.86 among those who wanted certification. This was statistically significantly higher than the 3.77 ± 1.14 seen in the group of respondents who did not want certification ($p < 0.001$). Similarly, the score for “Ward management of older patients with multimorbidity” was 4.07 ± 0.85 in the group wanting certification, compared with 3.87 ± 1.07 among those who did not want certification ($p = 0.044$). Scores for the other 23 items were not statistically different between the groups who did and not want certification.

Scores for the items, “Participation in community meetings to introduce cervical cancer vaccines,” “Cervical cancer screening,” “Pregnancy checkups for normal pregnancies,” and “Diagnosis and repair of elbow disorders in children” were less than 2.9 points in both groups, with low recognition. There was no statistical difference between the respondents in the group that wanted certification and respondents who did not want certification.

Individual factors related to the desire for certification (Table 4)

Overall, 83 (62.4%) of the respondents in the group that wanted certification and 199 (78.0%) of the respondents who did not want certification were working in hospitals. The number was statistically significantly higher in the group that did not want certification ($p = 0.001$). Working hours per week (hours) were 36.6 ± 22.8 in the group that wanted certification compared with 42.3 ± 26.3 in those who did not want certification. The difference was statistically significant ($p = 0.026$). There were no statistically significant differences in sex, age, marital status (unmarried or married), presence of children, work status (full-time or part-time), and whether or not on duty between two groups.

Factors related to the desire for certification: logistic regression model (Table 5)

Several factors were related to the desire for certification. The odds ratio was 2.293 (95% confidence interval: 1.379-3.811) for agreeing that “It is hard to make time to prepare for certification,” and 12.417 (95% confidence interval: 2.856-53.986) for agreeing that “You should be able to take the exam without leaving your current job” among the conditions for obtaining qualification. Among ideas on general practice, the odds ratio for agreeing that “I do not understand the meaning of the term ‘general practitioner’” was 0.353 (95% confidence interval: 0.21-0.594). Of respondents’ personal characteristics, the odds ratio for working in a hospital was 0.478 (95% confidence interval: 0.267-0.855).

Discussion

In this study, we focused on perceptions about general

Table 1. Conditions for certification as a general practitioner and thoughts on general practice by desire for certification (n = 404).

	Total Agree		Want to qualify as a general practitioner				p
			Yes (n = 140, 35%)		No (n = 264, 65%)		
			Agree		Agree		
Conditions for certification as a general practitioner	N	%	N	%	N	%	
1) It should be easier to obtain certification	378	93.8	132	94.29	246	93.54	0.7664
2) It is hard to make time to prepare for certification	175	43.53	79	56.43	96	36.64	0.0001
3) It is hard to renew certification	292	72.64	97	69.29	195	74.43	0.2706
4) Medical fees should be increased	169	42.14	94	36.02	75	53.57	0.0007
5) It should be possible to qualify for the examination without quitting your current job	348	86.78	135	97.12	213	81.3	< 0.0001
Ideas about general practitioners in the new medical specialist system							
1) Primary care can be practiced without being qualified as a general practitioner	205	52.43	82	58.99	123	48.81	0.0536
2) Physicians have a strong preference for specialties	326	81.7	111	79.29	215	83.01	0.3583
3) Patients have a strong preference for being treated by specialists	301	74.88	101	72.14	200	76.34	0.3558
4) Public awareness of general practitioners is low	345	85.82	122	87.14	223	85.11	0.5786
5) I do not understand the meaning of the term “general practitioner”	206	51.12	50	35.71	156	59.32	< 0.0001

The response pattern is based on a 5-point likert scale from "Not at all agree = 1" to "Very much agree = 5", and "agree" vs. "otherwise" was 1 to 2 points vs. 3 to 5 points.

Table 2. Characteristics of general practitioners by desire for certification (n = 404).

Characteristics of general practitioners compared to other specialists	Total Agree		Want to qualify as a general practitioner				p
			Yes (n = 140, 35%)		No (n = 264, 65%)		
			Agree		Agree		
	N	%	N	%	N	%	
1) Continuous and long-term involvement with a single patient	266	66.33	99	71.74	167	63.5	0.0971
2) Involvement with both patients and families	260	64.68	95	67.86	165	62.98	0.3294
3) Easy to get geographically close to the patient	291	72.75	104	74.82	187	71.65	0.4974
4) Easily accessible after hours and at night	166	41.29	54	38.57	112	42.75	0.4178
5) Psychologically accessible	295	73.75	106	76.81	189	72.14	0.3125
6) Treat routine complaints and problems without regard to sex or age	315	78.36	123	87.86	192	73.28	0.0007
7) Provide treatment for routine complaints and problems without regard to organ system	349	86.82	130	92.86	219	83.59	0.0089
8) Provide preventive measures such as vaccination before the onset of disease	282	70.32	102	72.86	180	68.97	0.4161
9) Intervene to improve daily life, such as by provision of rehabilitation and daily life support, even in cases of ongoing disabilities such as dementia and sequelae	288	71.82	105	75	183	70.11	0.2999
10) Develop team medicine and multidisciplinary cooperation	291	72.39	109	77.86	182	69.47	0.073
11) Collaborate with other clinics and hospitals	323	80.55	120	85.71	203	77.78	0.0556
12) Use social resources such as various systems and facilities in an appropriate and balanced manner	313	77.86	120	85.71	193	73.66	0.0056
13) Cooperate with local residents for local medical care	308	76.62	116	82.86	192	73.28	0.0307
14) Provide sufficient explanation and communication to patients	288	71.64	110	78.57	178	67.94	0.0242
15) Maintain and review the quality of medical care	252	62.69	95	67.86	157	59.92	0.1171
16) Provide continuing education and training	239	59.45	92	65.71	147	56.11	0.0616

The response pattern is based on a 5-point likert scale from "Not at all agree = 1" to "Very much agree = 5", and "agree" vs. "otherwise" was 1 to 2 points vs. 3 to 5 points.

Table 3. Clinical duties that should be performed by general practitioners, by desire for certification (n = 404).

Clinical tasks	Want to become a general practitioner				t-test	
	Yes (n = 140, 35%)		No (n = 264, 65%)		difference test Difference (95% confidence interval)	p-value
	mean	SD	mean	SD		
1) Treatment and prevention of lifestyle-related diseases	4.14	0.86	3.77	1.14	-0.37 (-0.57, -0.17)	< 0.001
2) Diagnosis and crisis management of depression	3.78	0.90	3.64	1.10	-0.14 (-0.34, 0.06)	0.179
3) Diagnosis and treatment of thyroid disorders	3.39	1.05	3.23	1.19	-0.16 (-0.40, 0.08)	0.171
4) Treatment of premenstrual syndrome and menopausal disorders in women	3.41	1.07	3.38	1.16	-0.03 (-0.26, 0.20)	0.793
5) Immunization of children	3.39	1.15	3.31	1.22	-0.08 (-0.32, 0.17)	0.542
6) Initial response to bronchial asthma emergencies	3.54	1.05	3.59	1.11	0.06 (-0.17, 0.28)	0.611
7) Initial response to sprains and fractures	3.24	1.12	3.32	1.18	0.08 (-0.16, 0.32)	0.521
8) Initial response to chest and back pain	3.73	1.09	3.59	1.18	-0.14 (-0.38, 0.09)	0.233
9) Initial response to nosebleeds	3.69	0.95	3.62	1.06	-0.07 (-0.28, 0.14)	0.502
10) Diagnosis and initial response to pneumonia in older patients	4.13	0.79	3.98	0.93	-0.15 (-0.32, 0.02)	0.085
11) Ward management of older patients with multimorbidity	4.07	0.85	3.87	1.07	-0.20 (-0.39, -0.01)	0.044
12) Palliative care for cancer and non-cancer patients	3.60	0.99	3.41	1.12	-0.19 (-0.41, 0.03)	0.079
13) Support for older people living alone to help them use social resources	4.01	0.86	3.91	0.99	-0.10 (-0.29, 0.10)	0.299
14) Diagnosis of unexplained fever	3.81	0.89	3.73	1.04	-0.09 (-0.28, 0.11)	0.387
15) Perioperative blood glucose control for diabetic patients	3.14	1.11	2.93	1.15	-0.20 (-0.43, 0.03)	0.092
16) Treatment of bedsores and collaboration with other professions during home visits	3.79	1.00	3.69	1.05	-0.09 (-0.30, 0.12)	0.402
17) Cooperation with other professions for home oxygen therapy for patients with chronic obstructive pulmonary disease	3.78	0.92	3.64	1.07	-0.14 (-0.35, 0.07)	0.179
18) School physician	3.54	1.18	3.46	1.07	-0.09 (-0.32, 0.14)	0.479
19) Smoking cessation activities for local residents	3.66	1.02	3.63	1.03	-0.03 (-0.24, 0.19)	0.812
20) Participation in community meetings to introduce cervical cancer vaccines	2.76	1.20	2.90	1.13	0.14 (-0.10, 0.38)	0.255
21) Cervical cancer screening	1.83	0.96	1.97	0.98	0.14 (-0.06, 0.35)	0.157
22) Pregnancy checkups for normal pregnancies	1.69	0.93	1.88	0.99	0.19 (-0.01, 0.39)	0.060
23) Diagnosis and repair of elbow disorders in children	2.59	1.24	2.70	1.19	0.12 (-0.13, 0.37)	0.358
24) Suture treatment of cuts	3.03	1.19	3.11	1.22	0.08 (-0.17, 0.33)	0.518
25) Diagnosis and treatment of ringworm	3.35	1.00	3.24	1.17	-0.11 (-0.33, 0.11)	0.308

Logistic regression analysis adjusting for place of work and hours worked.

Response patterns were based on 5 points likert scales from "totally disagree = 1" to "totally agree = 5".

SD, Standard deviation.

practice and individual characteristics such as sex, age, marital status, presence of children, and employment status, among internal medicine specialists to identify factors that influenced the desire for certification as a general practitioner. This study aimed to clarify the factors that influence this desire. General practitioner is a newly established qualification under the new medical specialist system, and physicians have different perceptions of the role and definition of a general practitioner. We hypothesized that physicians would differ in their desire to be certified as a general practitioner depending on their level of awareness of the role. The desire to become a general practitioner has also been reported to be related to sex and work-life balance, so we also examined how these individual factors affect the desire for certification (Bland et al. 1995; Chatani et al.

2016; Kawamoto et al. 2016).

First, the odds of wishing to be certified as a general practitioner were statistically significantly higher among those who thought that it was hard to make time to prepare for certification and that it should be possible to qualify for the examination without quitting your current job. This suggests that there is a certain validity in the fact that some doctors, such as internal medicine physicians who are currently qualified as specialists in a particular area of internal medicine, can take the certification examination for general practitioners as a transitional measure. It is necessary to create an environment that allows doctors to prepare for transition to general practice while continuing to work in their current positions. The item, "Medical fees should be increased" was statistically significantly lower in the group

Table 4. Individual characteristics related to desire for certification as a general practitioner (n = 404).

	Desire for certification				p
	Yes (n = 140, 35%)		No (n = 264, 65%)		
	N or mean	(%) or SD	N or mean	(%) or SD	
Sex					0.245
Male	96	(76.2)	172	(70.5)	
Female	30	(23.8)	72	(29.5)	
Age (years)	51.7	10.2	51.2	10.7	0.657
Marital status					0.245
Married	96	(76.2)	172	(70.5)	
Not married	30	(23.8)	72	(29.5)	
Children					0.297
Yes	116	(85.9)	211	(81.8)	
No	19	(14.1)	47	(18.2)	
Place of employment					0.001
Hospital	83	(62.4)	199	(78.0)	
Clinic	50	(37.6)	56	(22.0)	
Working hours per week	36.6	22.8	42.3	26.3	0.026
Work type					0.280
Full-time	130	(94.2)	237	(91.1)	
Part-time	8	(5.8)	23	(8.9)	
On duty					0.065
Yes	51	(37.2)	121	(46.9)	
No	86	(62.8)	137	(53.1)	

Sex and age were included via forced entry.

that wanted certification than in the group who did not want certification. This suggests that increasing medical fees is unlikely to be an incentive for specialists to become certified as general practitioners.

Second, the odds of wanting to be certified as a general practitioner were statistically significantly lower for those who did not understand the meaning of the term “general practitioner.” The Japanese Society for Primary Care Allied Medical Sciences reported that specialists in particular areas of medicine are characterized by the depth of their knowledge, and general practitioners by the “breadth and diversity of issues handled” (Japan Primary Care Association 2013). Now that general practitioners are included in the new medical specialty system, it is important that the medical community as a whole, including the medical associations, the Ministry of Health, Labour, and Welfare, and other stakeholders, have a unified understanding of the work of general practitioners. Indeed, respondents in the present study believed that “Public awareness of general practitioners is low,” regardless of their desire to become qualified as general practitioners. Thus, the importance of general practitioners should be elucidated to the public to increase awareness, which can influence internal medicine specialists’ desire to become certified as general practitioners.

Third, compared with other specialists, the item, “Easily accessible after hours and at night” was not well

recognized as a characteristic of a general practitioner, regardless of whether the respondent wanted to be certified as a general practitioner or not. Thus, “Easily accessible after hours and at night” should be realized not only through solo practice but also with group practice in mind; it is possible that the respondents assumed that solo practice was the way to achieve this. Group practice is necessary to realize “Easily accessible after hours and at night,” and also for doctors’ work-life balance and for medical safety.

Fourth, views about which clinical tasks should be performed by general practitioners varied by desire for certification. Those who wanted certification were more likely to have a high level of awareness of the content of general practice, such as treatment and prevention of lifestyle-related diseases and ward management of older patients with multimorbidity. It is necessary to establish a program to ensure that physicians with this orientation become general practitioners, as well as to ensure the quality of general practitioners. However, regardless of their desire to become qualified as general practitioners, respondents’ recognition of “Participation in community meetings to introduce cervical cancer vaccines,” “Cervical cancer screening,” “Pregnancy checkups for normal pregnancies,” and “Diagnosis and repair of elbow disorders in children” as clinical tasks to be performed by general practitioners was low. Therefore, it is necessary to raise awareness of these items as “Clinical duties that should be performed by gen-

Table 5. Factors related to the desire for certification as a general practitioner: logistic regression model.

	Crude odds ratio	Stepwise multiple logistic regression model (n = 324)*		
		Odds ratio	95% confidence interval	
			Lower	Higher
Conditions for certification				
2) It is hard to make time to prepare for certification	2.239	2.293	1.379	3.811
4) Medical fees should be increased	2.05	-	-	-
5) It should be possible to qualify for the examination without quitting your current job	7.764	12.417	2.856	53.986
Thoughts on general practitioners in the new medical specialist system				
1) Primary care can be practiced without being qualified as a general practitioner	1.509	-	-	-
5) I do not understand the meaning of the term “general practitioner”	0.381	0.353	0.21	0.594
Characteristics of general practitioner score		-	-	-
12-16 points	1.294			
0 -11 points	ref			
Sex				
Male	1.34	1.229	0.672	2.248
Female	ref			
Age	1.005	0.998	0.972	1.025
Marital status		-	-	-
Married	1.34			
Not married	ref			
Children		-	-	-
Yes	1.36			
No	ref			
Place of employment				
Hospital	0.467	0.478	0.267	0.855
Clinic	ref			
Working hours per week	0.991	-	-	-
Work type		-	-	-
Full-time	1.577			
Part-time	ref			
On duty		-	-	-
Yes	0.671			
No	ref			

*Sex and age were included by forced entry.

eral practitioners” and to further discuss their appropriateness. Our results suggest that some specialists in internal medicine are not fully aware of the role of general practitioners in the new medical specialty system, and that this is related to their desire for certification.

Fifth, the odds of wanting to be certified were significantly lower when the respondent worked in a hospital than a clinic. For general practice to function effectively in the future, it is necessary to secure a sufficient number of general practitioners of an adequate quality. This is likely to include some current specialists in internal medicine working in hospitals. It is also necessary to provide information and training to these specialists on how to move to general

practice.

We suggest that physicians transitioning from internal medicine specialties to general practice should receive training to ensure the quality of their practice (Kimura et al. 2017). Even among the respondents who wanted to be certified as general practitioners in this study, 58.99% believed that primary care could be provided without a general practitioner certification. This suggests the need to educate internal medicine specialists about the significance of training and to demonstrate its usefulness in the transition to a general practitioner. The All Japan Hospital Association launched a training program for general practitioners in 2018 (All Japan Hospital Association 2022). It is hoped

that education programs on the transition to general practice will be enhanced to fit the current situation in Japan.

This study had some limitations. First, its representativeness is limited by the 19% response rate and the fact that physicians with board certification in the Japanese Society of Gastroenterology and the Japan Endocrine Society were not included among the 13 societies affiliated with the Japanese Society of Internal Medicine. While the present study did not use the former qualification, Fellow of the Japanese Society of Internal Medicine (FJSIM), as an explanatory variable, the role of qualification is considered to be similar to that of general practitioners, and it is possible that having this qualification is related to the desire for certification as a general practitioner. Second, the respondents in this study may have been those who had time to participate in the survey. Their opinions may therefore differ from internal medicine specialists who are currently overworked. Third, this study did not comprehensively examine the factors that influence the desire of internal medicine specialists to be certified as general practitioners.

In conclusion, when 404 internal medicine specialists were asked about their desire to become certified as general practitioners under the new medical specialty system, 35% of them expressed a desire to do so. The factors that were statistically significantly associated with a desire for certification were not having enough time to prepare for the exam, and the view that they should be able to take the exam without leaving their current job. Creating an environment in which these specialists can prepare for the transition to general practice while continuing to work in their current positions could be an important step in increasing the number of quality-assured general practitioners in Japan.

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Conflict of Interest

The authors declare no conflict of interest.

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Supplementary Files

Please find supplementary file(s);
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