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Relation	

# General practice departments of university hospitals and certified training programs for general practitioners in Japan: A nationwide questionnaire survey

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## Abstract

**Background:** In the reform of specialist training by Japanese Medical Specialty Board, general practice is expected to be one of 19 core specialties. University departments of general practice can play a central role in training board-certified generalists, but whether they are actually preparing to do so is unknown.

**Method:** We sent a questionnaire to 79 universities and requested to forward it to the general practice department. Fifty-six departments of general practice (37 public and 19 private universities) completed the questionnaire (response rate 71%).

**Results:** Fifty-one (91.9%) universities planned to be the base institutes of certified programs. The annual seats per program ranged from 2 to 20 (median 5). In these 51 university-based programs, 33 (64.7%) departments provide the general practice II element. Twenty-eight (54.9%) require the program trainees to belong to the departments (*do nyukyoku*) and 11 (21.6%) recommend that they do so. Forty-seven (92.2%) programs had affiliated institutions in rural areas. Thirty-nine (76.5%) were willing to accept graduates of regional quota (*chiikiwaku*). Twenty-nine (56.9%) program directors took into account the obligatory service of regional quota when making the programs. Programs that accept regional quota graduates were more likely to be affiliated with rural institutions ( $P=.002$ ) and conscious of the obligatory service in making the program than other programs ( $P<.001$ ).

**Conclusion:** Most of the university departments have their own training programs. Many of them are willing to accept *nyukyoku* doctors and regional quota graduates. Universities intend to play an important role in graduating generalists and supporting their careers.

## KEYWORDS

general practitioners, Japan, medical education, supply and distribution, university hospitals

## 1 | INTRODUCTION

New training programs for medical specialists certified by the Japanese Medical Specialty Board are scheduled to begin in 2018.<sup>1</sup> This is the largest reform in Japan's specialist training system. The most notable in the reform is the inclusion of general practice as one of the 19 core specialties.<sup>2</sup>

Specialists such as internists, pediatricians, and surgeons in middle- to small-size medical institutions have traditionally provided primary

care in Japan. The Japan Primary Care Association (JPCA) and other professional bodies have provided a part of these specialists with certificates as generalists. The JPCA has also conducted board examinations for graduates of the JPCA-certified family medicine programs, and produced a small number of "born and bred" family physicians. However, neither general practice nor family medicine has been recognized by the government or other public bodies as an independent clinical discipline.<sup>3</sup> The new reform thus will mark the birth of general

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practice in Japan and lead to a rapid expansion of the general practitioners. However, the work content and career path of the incoming certified general practitioners are not clearly visible because the discipline has never existed before.

University hospitals conventionally have been the hubs for other major hospitals in their regions. Departments of university hospitals, *ikyokus*, have been the training bases for young specialists, laboratories for researchers, pools of specialist physicians, and the coordinators dispatching the physicians to affiliated hospitals.<sup>4</sup> By belonging to *ikyoku* (*doing nyukyoku*), young physicians can imagine their future career course. In this reform, *ikyokus* in most of the disciplines are starting their own training programs, and conventional *nyukyoku* is expected to continue.

University departments of general practice, however, are newer, less mature, and thus have fewer relationship with other hospitals and clinics than traditional *ikyokus* in other disciplines. If, however, the university departments of general practice have their own training programs and accept many new *nyukyoku* physicians, this situation can dramatically change.

Regional quotas, *chiikiwaku*, were first introduced, on a full scale, into medical schools, in 2009. A medical school's regional quota has three characteristics: (i) special admission different from the usual entrance examination, (ii) scholarships given by the home prefecture, and (iii) obligatory service in the home prefecture after graduation (usually a requirement of some years of rural service).<sup>5-7</sup> Jichi Medical University, established in 1972 solely to produce rural doctors,<sup>8</sup> has the similar scholarship system and was used as the model for the regional quotas. In 2016, the number of entrants to the regional quotas in all medical schools was 1504, or 16% of all medical school entrants in Japan.<sup>9</sup> The freedom to choose a specialty differs among the quotas, but graduates of the quotas are expected to choose general practice due to its high affinity for rural service.<sup>10</sup> Accepting the graduates of the regional quota into the new training programs is quite important for the development of general practice in Japan. Accepting them into university departments is also important for maturation of general practice *ikyoku*.

In this study, we explain the roles that university departments play in the new training programs of general practice by using results of a questionnaire survey. We focus on how many university departments start their training programs as base institutions, the relationship between program trainees and *nyukyoku*, and the programs' readiness to accept regional quota graduates.

## 2 | METHODS

As a preliminary survey for the 16th Congress of the University Departments of General Practice, we sent a questionnaire to all the 79 (50 public and 29 private) universities and medical schools in Japan (excluding Hiroshima University: the study office), and requested them to forward it to the department or division that specializes in general practice in the school. Among them, 56 departments (of 37 public and 19 private universities) from 41 prefectures responded by the end of May 2016. The response rate was 71%.

The questionnaire included following items: (i) whether the department starts up a certified general practice training program as the base

institution (yes/no), (ii) maximum seats per year in the program, (iii) the training contents the department provides, (iv) whether the trainees of the program are required to do *nyukyoku* (require/recommend/indifferent), (v) whether rural institutions are affiliated with the base institution to cooperate the program (yes/no), (vi) whether the program accepts graduates of regional quota or Jichi Medical University (yes/no), (vii) whether the program director took into account the obligatory service of regional quota or Jichi Medical University when making the program (not conscious/moderately conscious/strongly conscious), (viii) how many other programs will be created in the same prefecture, (ix) whether the other programs are affiliated with the university department (yes/no), and (x) whether the trainees in the other programs are required to do *nyukyoku* to the affiliated university department (require/recommend/indifferent).

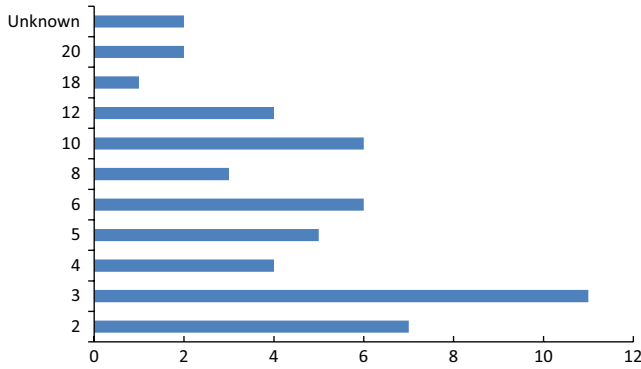
In the reformed training system for general practitioners, all programs are required to offer "general practice I" and "general practice II" elements for a minimum of six months each. "General practice I" is a training in outpatient primary care, home-visiting care, and community-based integrated care based at clinics or small hospitals. "General practice II" is a training in outpatient and inpatient general medicine at emergency-care hospitals. Other elements to be included in the programs are internal medicine, pediatrics, emergency care, and "other areas" such as surgery and orthopedics.<sup>11</sup> Thus, the contents of a training program asked in question 3 were answered as these elements.

A "rural area" in this study was defined as one in which regional quota or Jichi graduates are expected to be dispatched as obligatory service. The definitions of the terms used in the questions and their answers conformed to the Standards for Making a General Practice Training Program released by the Japanese Medical Specialty Board.<sup>11</sup> The "base institution" in a program can provide general practice I or II training and the one in which the program director works full-time. "Affiliated institutions" in a program help the base institution by providing some elements that the base institution cannot. *Nyukyoku* is a Japanese custom in which a physician sustainably belongs to a university hospital department and takes career support from the department in addition to providing workload for the department and its affiliated hospitals.

The obtained information was digitalized at the study offices (Department of General Medicine and Department of Community-based Medical System, Hiroshima University). Statistical analyses were conducted with IBM SPSS version 21. The publication of the study results was approved by members of the Congress of University Departments of General Practice at the 16th annual meeting held in Hiroshima on July 7, 2016. We did not obtain permission from research ethics committees because the data in this study did not contain any personal information.

## 3 | RESULTS

Among the 56 universities that responded to the questionnaire, 51 (91.9%) planned to be the base institutes of board-certified training programs for general practitioners. The number of seats for each program per year ranges from 2 to 20 trainees a year (median 5 and interquartile range 3-10) (Figure 1).



**FIGURE 1** Number of trainee seats a year for each university-based general practice training program (n=51)

Among the 51 university-based programs, 64.7% universities planned to provide general practice II or general practice II in addition to other trainings, and 19.6% planned to provide other areas (Figure 2).

Among the 51 university-based programs, 54.9% require the program trainees, as a rule, to do *nyukyoku*, 21.6% recommend that they do *nyukyoku*. In other words, 75.5% of the university departments supported the custom of *nyukyoku* (Table 1). The proportion of university-based programs that were affiliated with rural institutions was 92.2%. Most (76.5%) of the programs were willing to accept graduates of regional quota. More than half (56.9%) of the program directors took into account the obligatory service of regional quota or Jichi graduates when making the programs (Table 1).

Among the 39 programs that accept regional quota or Jichi graduates, 100% were affiliated with rural institutions; among 12 programs that did not, 66.7% were affiliated with rural institutions (*P* for difference .002, chi square test) (Table 2). Among the 39 program directors that accept regional quota or Jichi graduates, 74.4% took into account the obligatory service of regional quota or Jichi graduates in making the program; among the directors who did not, none were conscious of the obligatory service (*P* for difference <.001, chi square test) (Table 3).

Forty (71.4%) of the 56 universities that completed the questionnaire answered that other certified programs for general practitioners would be launched in the same prefectures, seven (12.5%) answered no other program would be set up, and the remaining universities did not know. Among the 34 universities that knew the number of other programs in their prefectures, 25 (73.5%) answered 1-5 programs, six (17.6%) mentioned 6-10 programs, and the remainder mentioned 11-15 programs. Among the 40 universities that have other programs in the prefectures, 19 (47.5%) were affiliated

**TABLE 1** Answers to *nyukyoku*, affiliation with rural institutions and willingness to accept regional quota graduates by university departments (n=51)

Nyukyoku status of registered trainees.		
Require <i>nyukyoku</i> as a rule	28	54.9
Recommend <i>nyukyoku</i>	11	21.6
Indifferent	11	21.6
No response	1	2
Affiliated with rural institutions?		
Yes	47	92.2
No	4	7.8
Willing to accept regional quota or Jichi graduates?		
Both regional quota and Jichi	23	45.1
Regional quota only	16	31.4
Neither	12	23.5
Conscious of obligatory service when making the program?		
Not conscious	22	43.1
Moderately conscious	19	37.3
Strongly conscious	10	19.6

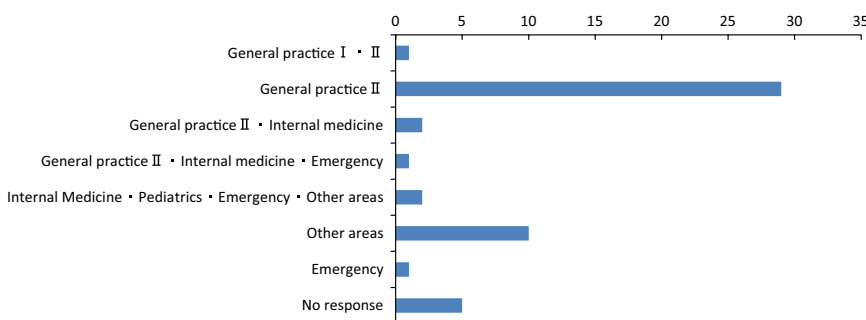
**TABLE 2** Association between accepting regional quota or Jichi graduates and affiliation with rural institutions (n=51)

		Affiliated with rural institutions	
		Yes	No
Willing to accept regional quota or Jichi graduates	Yes	39 (100%)	0 (0%)
	No	8 (66.7%)	4 (33.3%)

**TABLE 3** Association between accepting regional quota or Jichi graduates and director's consciousness of obligatory service (n=51)

		Conscious of obligatory service in making the program	
		Yes	No
Willing to accept regional quota or Jichi graduates	Yes	29 (74.4%)	10 (25.6%)
	No	0 (0%)	12 (100%)

with the programs. Among the 19 universities 1 (5.3%) that planned to require the trainees of the other programs to do *nyukyoku*, seven (36.8%) planned to recommend to do so, and the rest did not care about *nyukyoku*.



**FIGURE 2** Element of training a university department provides in the program (n=51)

## 4 | DISCUSSION

The results of this study showed most of the university departments of general practice would have, as the base institutions, board-certified training programs for general practitioners. Most of them answered they would require or recommend the registered trainees of the programs to do *nyukyoku*. Most of the university-based programs had rural hospitals or clinics as affiliated institutions, and the directors who accept regional quota graduates were aware of their obligatory services when making the programs.

In Japan, clinical departments of university hospitals, *ikyoku*, have traditionally served as a pool of doctors that can be sent to hospitals in the areas. This system has made physicians' career path visible and probably contributed to a geographically equitable distribution of physicians. The new postgraduate clinical training scheme which was introduced in 2004 has decreased the number of new doctors who belong to *ikyoku* (*nyukyoku-sha*). This has weakened the physician-dispatch function of *ikyoku*, decreased the number of doctors at small and middle-sized hospitals particularly in rural areas, and might have disrupted the equity of physician distribution across Japan.<sup>12</sup>

Japan's non-university programs have played a substantial role in producing generalists, and will continue to do so under the new training system. The results of this study suggest, in addition to the non-university programs, *ikyokus* will play a more important role in producing board-certified general practitioners than before. As the results suggest, *ikyokus* of general practice might increase the number of *nyukyoku* doctors and have a physician-dispatch function just like *ikyokus* of other disciplines. This is even more so considering the *ikyokus* are preparing to accept the rapidly expanding graduate population of regional quota.

University-based programs for general practitioners need to offer a variety of career options that meet the needs of doctors-in-training. When *nyukyoku* is a requirement, the *ikyokus* need to have some responsibility in doctors' post-training career. For example, research experience, PhD degree, subspecialty training, experience of studying abroad, and lifelong education would be among the services *ikyokus* would have to provide.

The programs and *ikyokus* need to pay special attention to the careers of regional quota and to Jichi graduates who have an obligation to serve in rural areas. The programs must be affiliated with rural hospitals or clinics to meet their needs. The program directors should cooperate closely with the prefecture governments that send them into rural areas.

There are some limitations in this study. First, it is impossible to know what proportion of general practice departments in Japan was covered in this study. Although 71% of all the medical schools (universities) in Japan responded to our questionnaire, there must have been some medical schools without a department or division of general practice and thus were unable to respond. The actual response rate therefore may be higher than 71%. Another limitation is that the data in this study may change when the programs start in 2018. When our survey was conducted in May 2016, the certified general practice

programs were scheduled to start in 2017. After that, however, the Japanese Medical Specialty Board decided to delay the start until 2018.<sup>1</sup> The current programs may be modified according to the new conditions the Board creates in the near future.

## 5 | CONCLUSION

Most university hospitals or *ikyokus* of general practice will establish new training programs for general practitioners. They can thus be key players in the new training system which is expected to start in 2018. The capacity of *ikyokus* to accept young physicians and support their careers should be strengthened to meet the future increase in demand.

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## CONFLICT OF INTEREST

The authors have stated explicitly that there are no conflicts of interest in connection with this article.

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