

Re-evaluation of the Introduction of the Clinical Resident Training System and Its Effect on Medical Offices (*Ikyoku*) in Japan

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Abstract

Due to the introduction of the new Clinical Resident Training System introduced in 2004, the destination where interns do residency changed in Japan. Before this system, university hospitals received 70 % of the interns, but by 2008, dropped to 50 %. This independence from university hospitals cause to decrease number of interns attached to medical offices (*Ikyoku*). A questionnaire survey targeting hospital doctors was carried out, and differences between “doctors attached to medical offices” and “doctors not attached to medical offices” were then analyzed. From this, the role of medical offices was hypothesized. As a result, it was suggested that medical offices were places for doctors in specialized fields to write papers in a foreign language or Japanese, in order to widely disseminate their medical achievements. There is concern that fewer papers may be submitted and/or the level of medical services may decrease due to this reduction in human resources in medical offices.

Keywords: Clinical Resident Training System, Hospital Physicians, Human Resources, Maldistribution

1. Introduction

The Universal Health Care System in Japan was introduced in 1961, with basic medical services provided equally to all at a fixed cost. The health of the Japanese people is recognized as being maintained by this system, and Japan now has the highest longevity rates in the world. Many countries are considering the introduction of a similar universal health care system (Reddy et al., 2011; Chongsuvivatwong et al., 2011; WHO, 2010).

Recently, however, various issues, such as an increase in medical costs due to an aging population, the changing disease profile of society, and the rapid development of medical technology, have been

threatening the Universal Health Care System in Japan. Furthermore, it is reported that a shortage of doctors has led to practicing doctors being exhausted due to uneven geographical distribution and prolonged working hours (Yasunaga, 2008; Wada et al., 2010).

Although such issues must be resolved in the Japanese medical care system, other countries face similar problems (Horton, 2010). In Southeast Asia, uneven regional distribution of human medical resources (including doctors) is considered to be a problem (Kanchanachitra et al., 2011), and according to written reports presented by the WHO (2006), proper distribution of human medical resources (such as doctors) in specialized fields may be a determining factor in the implementation of a medical care system.

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Therefore, surveys and analyses of conditions (environment, activity, etc.) of doctors, who are the core of human resources in the medical care system are very important in the consideration of improvements to the medical care system and policy planning.

In this study, we focus on the Clinical Resident Training System in Japan and assess the effect that introducing the system has had on doctors' behavior through a questionnaire survey. In addition, we will assess the effect of the introduction of the Clinical Resident Training System.

2. Political Background

2.1 Effects of the Introduction of the New Clinical Resident Training System

In Japan, the new Clinical Resident Training System was introduced in 2004 (MHLW, 2010). The introduction of this system greatly affected the residency system of interns because of the addition of a clause stipulating that “two years or more of compulsory residency is required for doctors who wish to engage in the medical care.”

Residency became compulsory due to the following reasons. (1) Problems in earlier training, such as little contact with community healthcare, on-the-job training biased toward specialized hospital departments, and treatment of the illness not the person; (2) poor working conditions for many interns where they cannot concentrate on their residency and are required to seek part-time work; (3) on-the-job training mainly carried out at an affiliated college or hospitals, and insufficient evaluation of training contents or achievements; and (4) the need for improvement.

The largest change in the new system was the method for determining where residency was to be provided. Previously, interns were first attached to the medical offices (Ikyoku) of their affiliated colleges or university, and the medical offices determined the destination (medical offices or related hospitals) where the interns would do residency. Under the new system, because it takes into consideration requests from

both interns and the hospitals where they want to do residency, the process is computed (operated by the Japan Residency Matching Program) (Kozu, 2006).

As shown in Fig. 1, this led to a change in the destinations where interns do residency when compared with the period before the introduction of the new system (in 2003) (MHLW, 2010). Before the system's introduction, 70% or more of the interns did residency at university hospitals, whereas after the introduction of the system, this rate dropped. Since 2006, the rate of those with residency at clinical resident training hospitals, which include general hospitals, has only slightly increased.

Although the original purpose of the introduction of the system was to bring into effect a shift in the destination where interns do residency from university hospitals in specialized fields to general hospitals where emphasis is placed on primary care, the relationship between doctors and the medical offices of university hospitals changed drastically.

This shift has resulted in a shortage of doctors at university hospitals and a reduction in the power of the medical offices of university hospitals.

2.2. Traditional Role of Medical Offices in Japan

We will briefly explain the role played by medical offices at universities in Japan. Medical offices are

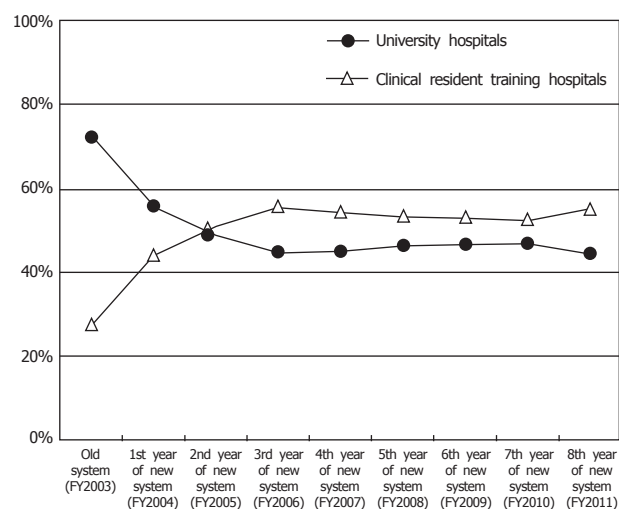


Figure 1 Change in destinations where interns do residency

a unique organization in Japan, functioning as a control center of medical education, medical care activities, and research activities (Otaki, 1998). In addition, medical offices combine the diagnosis and treatment department of a university hospital with the university's clinical course and, in effect, have decision-making powers regarding appointments to the medical offices at related hospitals. In this way, they exercise control over personnel matters (Otaki, 1998).

With the introduction of the new Clinical Resident Training System, the location where residency is provided is determined without going through the medical offices, and the process is thus considered to have weakened the authority of the medical offices over personnel matters and increased the independence of interns.

According to a questionnaire survey targeting medical offices carried out in 2008, 76.6% of the valid responses (1,024) from medical offices reported that they had “discontinued or suspended the dispatch of doctors” to related hospitals after the implementation of the new Clinical Resident Training System. This was due to a shortage of doctors and led to restrictions in medical care and/or the closing of the diagnosis and treatment departments in related hospitals (Mori, 2008).

It is assumed that the weakening of authority over personnel matters held by medical offices led to a loss in their ability to “consolidate and distribute human resources.” The problem is considered the result of focusing only on the negative aspects of medical offices and failing to sufficiently analyze the role of medical offices in the medical care system.

Consequently, a questionnaire survey targeting hospital doctors was conducted, and the characteristics of doctors attached to medical offices were analyzed from the results.

We evaluated the functions of medical offices based on the results of this questionnaire survey.

3. Survey

A questionnaire targeting hospital doctors (excluding practitioners) from among physician monitors (3,531

monitors, as of January 2010) in cooperation with SPiRE, Inc., was carried out over the Internet (Ito & Nagano, 2011).

The questionnaire comprised 35 questions. It included hospital characteristics (hospital type, number of beds, administrative entity, work environment, IT infrastructure, etc.) and respondent characteristics (gender, age, specialty, service year, years of experience as a clinician, medical doctorate holder, certified medical specialist, attached to a medical office, etc.). In addition, the questionnaire surveyed the experience of and attitudes toward conducting clinical research.

The survey period was between February 15 and 23, 2010, and the number of questionnaires collected was 684 (respondent rate: 19.4%).

4. Results and Discussion

In response to the question, “Do you belong to a medical office of a university?” 55.8% (382) answered “Yes,” and 44.2% (302) answered “No.”

We examined whether there were differences between “Attached to a medical office” and “Not attached to a medical office” using the Wilcoxon rank sum test (Table 1). Significant differences were found in “age,” “number of hospital beds where the intern works,” “working at a national/independent hospital,” “working at a medical corporation hospital,” “service years,” “medical doctorate,” “certification of medical specialist,” “experience in publishing papers in medical magazines written in a foreign language, etc.,” and “experience in publishing papers in medical magazines written in Japanese, etc.”

Regarding “age” and “service years,” average values of “doctors attached to a medical office” were slightly lower than the average values of “doctors not attached to a medical office.”

Compared with doctors “not attached to medical offices,” most doctors “attached to a medical office” work at national/independent hospitals, have a medical doctorate, and are certified medical specialists. Furthermore, they have experience in publishing papers in medical journals in both a foreign language and Japanese.

Table 1 “Attached to a medical office” vs. “Not attached to a medical office”

	Not attached to a medical office			Attached to a medical office			
	N	Mean	Median	N	Mean	Median	
Age	302	48.841	45	382	44.424	45	***
Male	302	0.821	1	382	0.887	1	**
Bed	302	189.040	60	382	426.204	400	***
NIAA hospital	302	0.046	0	382	0.204	0	***
M hospital	302	0.089	0	382	0.131	0	*
PMI hospital	302	0.050	0	382	0.071	0	
SI hospital	302	0.020	0	382	0.034	0	
MC hospital	302	0.507	1	382	0.314	0	***
Service year	302	9.248	7	382	7.393	7	***
MD	302	0.391	0	382	0.584	1	***
MS	302	0.573	1	382	0.825	1	***
FL article	302	0.328	0	382	0.552	1	***
J article	302	0.642	1	382	0.835	1	***

Age: Age, Male: Male, Bed: Bed number, NIAA hospital: National/Independent hospital, M hospital: Municipal hospital, PMI hospital: Public medical institution hospital, SI hospital: Social insurance related association hospital, MC hospital: Medical corporation hospital, Service year: Service years, MD: Medical doctorate, MS: Medical specialist, FL article: experience in publishing papers in medical journals written in a foreign language, etc., J article: experience in publishing papers in medical journals written in Japanese, etc.

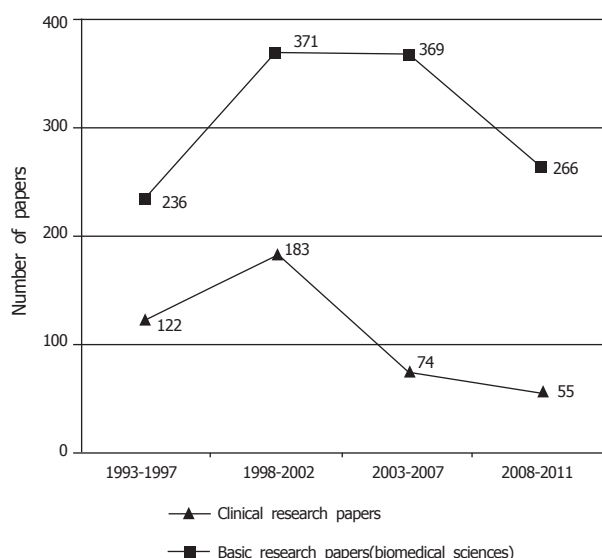
Based on these results, the function of medical offices was considered. We found that many doctors with a medical doctorate and certified as medical specialists were “attached to a medical office.” In this correlation, two possibilities have been proposed: (1) the medical office environment is advantageous to the acquisition of a medical doctorate or certification as a medical specialist, and/or (2) a medical doctorate or certification as a medical specialist is advantageous in building a career as a doctor attached to a medical office.

Furthermore, since many doctors “attached to a medical office” have “experience in publishing papers in medical journals, etc., in a foreign language and/or Japanese,” it is assumed that the medical office environment is advantageous for writing and publishing “papers for medical journals, etc.,” and that medical offices stimulate such incentives. Regarding the accreditation criteria for medical specialists, since “a paper as the lead author” in a related field is required, acquisition of certification as a medical specialist may be an incentive for “writing papers in Japanese.” In some cases, writing papers in a foreign language is

required for acquisition of a medical doctorate.

From the above, a central role of medical offices is to function as a place where doctors in specialized fields can write papers in a foreign language or in Japanese. This can be considered to have led to the wide dissemination of advanced medical knowledge throughout Japan and to have raised the level of medical care in Japan. Consequently, there is concern that the shortage of human resources in medical offices due to the introduction of the new Clinical Resident Training System may result in fewer papers being submitted to medical journals. As shown in Figure 2, there have been reports that clinical research papers have been drastically decreasing in number since 2003, as compared with basic research papers (Takatori, 2008; Tatsumi, 2012; Murashige et al., 2011). This might indicate the need for further surveys and a reevaluation of the role of medical offices.

In addition, we should mention that the National University Corporation Law was introduced in 2003. Under this law, National Universities were granted independence from Government rules on April 1, 2004 (MEXT, 2003). This reform may also have played



Clinical research papers include published papers in the New England Journal of Medicine, the Lancet, and JAMA. Basic research papers include those published in Nature Medicine, Cell, and the Journal of Experimental Medicine.

* This figure is modified from Tables in referred papers (Takatori, 2008; Tatsumi, 2012).

Figure 2 Change in number of clinical research papers and basic research papers published by Japan

a role in the decrease in the production of academic papers, because of changing workload of university faculty who engage in teaching as well as conducting research than before (Watanabe, 2011).

We presume that decreasing number of papers might be caused by (1) shortage of human resources in medical offices, (2) time reduction for research activities of faculties in medical schools of National Universities, and (3) any other factors. However, we should carefully examine it more and more

Our results seem to show the negative effects of introducing the Clinical Resident Training System in Japan. It caused a shift of residents away from university hospitals and toward non-university hospitals. Interestingly, residents at non-university hospitals were shown to have higher levels of satisfaction with the residency system, clinical skills training, income, and educational environment (Nomura et al., 2008; Tokuda et al., 2010). Therefore, the current situation may remain unchanged.

The shift undermines the influence of medical

offices and could result in a maldistribution of doctors and reduced research activity in clinical research. It is reported that the geographic distribution of doctors got more uneven after 2004 (Toyabe, 2009) and that the maldistribution of doctors as a consequence of urbanization has increased (Tanihara et al., 2011).

In 2007, the Japanese government decided to increase the number of medical students every year from 2008 to combat the shortage of doctors. However, the true nature of the problem is not simply a matter of a shortage in the number of doctors but also the maldistribution of doctors. Tanaka has warned about the possibility of a surplus of doctors in the future in Japan (Tanaka et al., 2011).

5. Conclusion

We propose a reevaluation of the role of medical offices in Japan's medical care system. This does not mean that medical offices at university hospitals should be restored to their former status. Rather, the role of non-university hospitals should be enhanced and some consideration should be given to their having a part to play in the distribution of doctors and in conducting clinical research in the future.

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