

**The 1997 massive resignation of contracted new medical graduates
from the Thai Ministry of Public Health: what reasons behind?**

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Abstract :

The system of compulsory contracts for three years public service to all medical graduates, established in Thailand since 1972, contributed greatly to the success of a more equitable distribution of doctors to the rural district hospitals during the late 1970s to mid 1980s. However rapid economic growth, with the rapid expansion of private health facilities and increased opportunities for specialty training since late 1980s, resulted in internal brain drain with many contracted doctors breaking their contracts and moving to the private sector. Although they had to pay \$US 10,000 - 15,000 fines, they could recover that amount through six months work in the private sector. The situation of internal brain drain came to a peak in early 1997, before the economic crisis, when 126 or 22% of the newly contracted medical graduates resigned from the Ministry of Public Health. Detailed analysis found that medical graduates from families who resided in and around the capital and those who graduated from central medical schools had a significantly higher rate of resignation.

In depth telephone interviews with the resignees found that three factors contributed more or less equally to their resignations, i.e., mismanagement of human resources, desire for specialty training, and family reasons. The 1997 economic crisis and the reform of human resources management in early 1998 resulted in less resignations, equivalent to around one-third of the 1997 figures. A situation of reverse brain drain also started to be visualized. We propose that a package of strategies including pull and push prevention factors should be used to achieve a more equitable distribution of doctors.

Keywords : brain drain, economic growth, economic crisis, compulsory contract, physician dynamics.

Introduction :

Inequitable distribution of health personnel is a worldwide phenomenon⁽¹⁾. Although it may be more visible in less-developed countries, the developed countries are not exempt⁽²⁾. This phenomenon is also aggravated by the overall physician shortage exacerbated by external brain drain, which is common in the less-developed countries^(1, 3-4).

The severe external brain drain in Thailand in the early 1960s resulted in 50% of new medical graduates migrating to USA in 1965 (Table 1)⁽⁴⁾. This problem prompted the government to create a system of “**three years compulsory contract for public services**”, which applies to all medical students since 1967. As all medical schools at that time were publicly funded and medical students paid less than 5% of the educational cost⁽⁵⁾, it was quite rational to establish such a compulsory contract. The new graduates were required

to join public service for three years, including one year of internship^a. These new medical graduates were allocated to different health care organizations. Two-thirds of them were allocated to the Ministry of Public Health (MoPH), the main national health service provider. Almost all of these new medical graduates allocated to the MoPH worked in rural district and provincial hospitals. If they breach the contracts, they will have to pay a fine of approximately \$US 10,000-15,000⁽⁶⁾.

Table 1 External brain drain of Thai medical graduates, 1963-1965.

Year	Total new graduates	No. of medical emigrants	% external brain drain
1963	233	56	23.03
1964	236	81	34.32
1965	276	140	51.72
Total	745	277	37.18

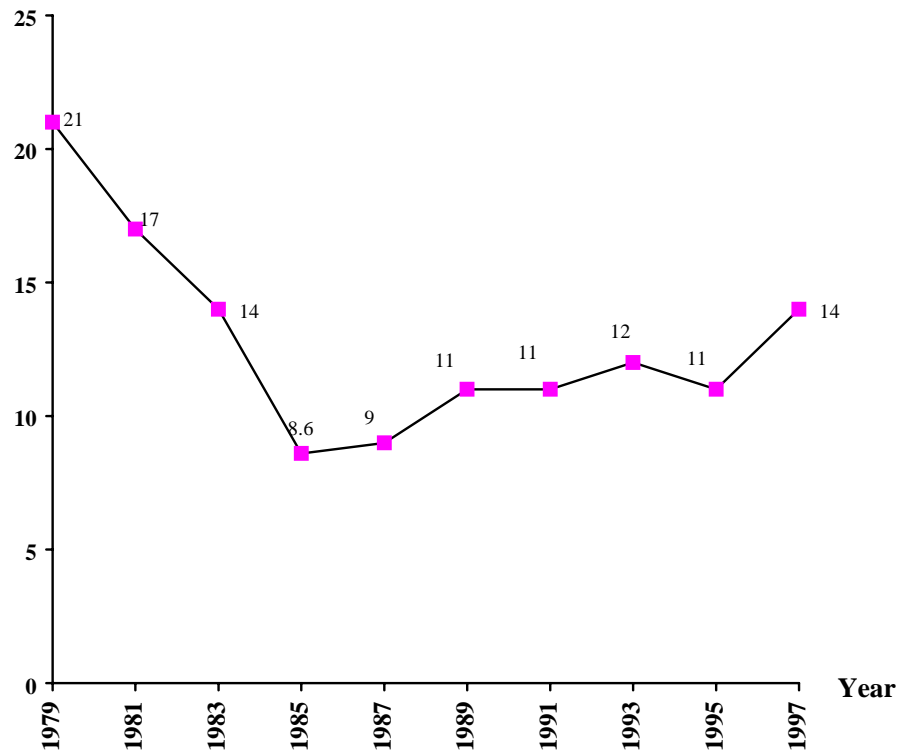
Source : Civil Service Commission and Thai Medical Council

This system worked well and in conjunction with the strong social movements toward more social equity in the late 1970s and early 1980s, did contribute to the more equitable distribution of doctors (Figure 1)⁽⁷⁾. The number of MoPH's doctors increased more than two fold in 10 years. However, the situation changed during late 1980s and early 1990s. The rapid economic growth (which finally turned into bubble economy) prompted the rapid proliferation of private for-profit hospitals. The number of private hospitals and beds increased three fold in one decade⁽⁴⁾. This rapid proliferation was also fueled by the investment policy from the government. The government expected that these private facilities would absorb rich patients and free some public resources for the benefit of the poor. Although the private hospitals did partially achieve that purpose, they also created tremendous false demand and escalation of health expenses⁽⁸⁻⁹⁾. Most important of all, they attracted doctors from the public sector, particularly from the rural hospitals.

^a The previous medical education system in Thailand was 6 years after 12 years of basic education. One year internship was required before a practise license was automatically granted. The system of internship was terminated in 1984. Since then all medical graduates immediately and automatically receive a practise license after completing 6 years of medical education from public medical schools. Those who graduate from the one private medical school, or from foreign medical schools, require licensing examination.

Figure 1 Ratio of population : doctors comparing Northeastern region (poorest) and Bangkok, 1979-1997.

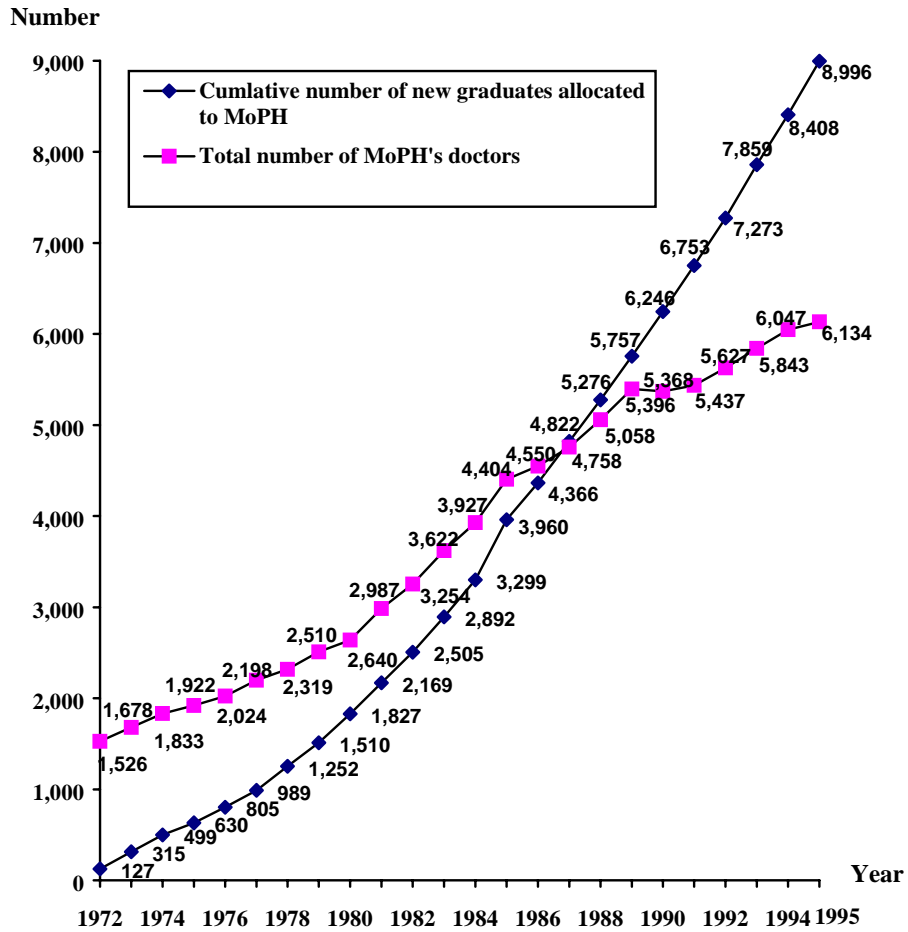
NE: Bangkok popⁿ doctor ratio gap



Source : Health in Thailand 1997-1998⁽⁷⁾.

Since 1990, more and more contracted new medical graduates have breached their contracts and paid the fine. The rate of increase of MoPH's doctors started to decline, during this period (Figure 2).

Figure 2 Number of MoPH's medical doctors and number of contracted new graduates allocated to MoPH.



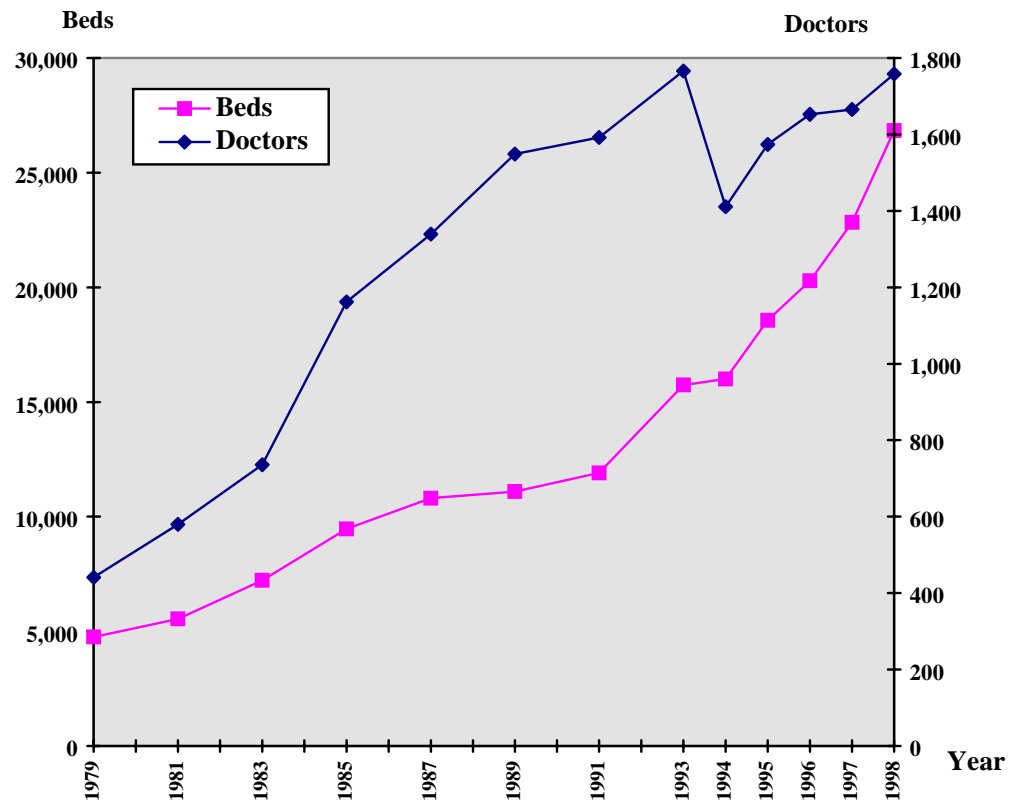
Source: Thai Medical Council, 1997⁽⁴⁾.

The number of doctors at the district hospitals leveled off in 1991 and even decreased in 1995, due to the new rule of one year intensive training at the urban provincial hospitals set up by the Medical Council (Figure 3)^b. This event, despite the continuing increase in the number and beds of rural district hospitals, resulted in increasing workloads to rural district hospital doctors (Table 2) and aggravated the situation of internal brain drain. The increased opportunities for specialty training also contributed greatly to the internal brain drain⁽⁷⁾.

This internal brain drain in mid 1990s, prompted the government to develop several financial incentives to attract physicians. New medical graduates assigned to the most remote areas may earn up to 50,000 Baht per month. Those in normal rural areas earn over 30,000 Baht per month. Logistic support was also improved greatly. However, these measures did not prove very effective.

^b From 1984-1993, all medical students received automatic practise licenses after 6 years of education. Since 1994, although they still automatically receive the license, one year intensive training at the urban provincial hospital is required for their participation in future residency training. Almost all new medical graduates participate in this one year training.

Figure 3 Number of doctors and beds in rural district hospitals.



Source: Rural Health Division, MoPH.

Table 2 Workload of district hospital doctors.

Year	No. of district hospitals	No. of beds	No. of doctors	OPD visits (x 1,000)	MD : Bed	MD : OPD /yr.
1979	291	4,750	441	4,402	1:10.8	1:9,982
1981	313	5,540	580	6,612	1:9.6	1:11,401
1983	388	7,220	736	8,789	1:9.8	1:11,941
1985	480	9,460	1,162	12,838	1:8.1	1:11,048
1987	557	10,800	1,339	14,602	1:8.1	1:10,905
1989	561	11,090	1,549	15,650	1:7.1	1:10,103
1991	576	11,910	1,592	18,376	1:7.5	1:11,543
1993	650	15,740	1,766	21,098	1:8.9	1:15,263
1995	688	18,560	1,573	26,954	1:11.8	1:17,124
1996	695	20,290	1,653	28,009	1:12.3	1:16,944
1997	703	22,830	1,665	31,413	1:13.7	1:18,867
1998	706	26,830	1,758	34,035	1:14.4	1:19,360

Source: Rural Health Division, MoPH.

This internal brain drain came to a peak in June 1997, when a total of 126 or 22% of new medical graduates resigned from the MoPH. This resulted in 21 district hospitals

(3% of total 700 hospitals) operating without a single MD. In mid 1997, a questionnaire survey was carried out with the remaining doctors to determine the cause of resignation⁽¹⁰⁾. 74.6% of the respondents (non-resigned doctors) reflected that their friends resigned as a protest to the compulsory transfer to other provinces^c (Table 3). However, since this information came indirectly from friends, it may be somewhat distorted. A more direct approach is needed to determine the causes of resignation from the primary sources of information so that proper solutions can be proposed.

Table 3 Causes of resignation of medical doctors (as reported by their friends who did not resign)

Causes	No. of response
Don't want to work in hardship area	119 (41.5%)
Don't know the real situation of the area	120 (41.8%)
Parent's intention	53 (18.5%)
Protest against compulsory transfer	214 (74.6%)
Further training	31 (10.8%)
Financial reason	40 (13.9%)

Source : Rayawa N, 1997.⁽¹⁰⁾

This paper is the report of an in depth study aimed at determining the factors related to the 1997 massive resignations of the new medical graduates. The information is derived directly from the resignees.

Methods

1. **Retrospective Cohort Study.** All 572 records of the new MDs who graduated in 1996 and completed the one year intensive training in provincial hospitals were reviewed⁽¹¹⁾. This is the population from which the 126 resigned doctors are derived. Relative risks of several factors related to resignation, i.e., sex, residence, location of medical school where they graduated, and round of workplace selection, were determined. Out of the 572 new medical graduates, 551 (96%) had complete information and their records were used in this analysis.

2. **Indepth Interview.** A senior medical doctor was assigned to interview all resignees through informal telephone discussion using semistructure questionnaire. 81 (64%) of all resignees were successfully interviewed. The main questions in the interview were primary and secondary causes of resignation, workplace after resignation, income after resignation, and opinion about working in rural district hospitals. Information on places of work after resignation was determined from 115 (92.7%) resignees. This information came from an additional 34 cases derived indirectly through their friends.

^c After one year of intensive training at the provincial hospitals, contracted new medical graduates have to select their new workplace through a matching system. Most of these MDs are successful in getting their new workplace from the first round of matching. Those that fail the first round have to go into the second round of selection. Only hardship areas are left for selection in the second round. These second round selected doctors usually have to transfer to different provinces.

Results

1. Retrospective Cohort Study

Table 4 shows that residence, round of workplace selection, and location of medical school where they graduated relate significantly to the rate of resignation. The relative risks (RR) are 2.67, 1.67, and 2.27, respectively. Gender of the medical graduates has no relationship to the rate of resignation. Stratified analysis, by deleting the factor of Bangkok (capital) residence, found that the relative risk of the Bangkok medical school graduates decreased from 2.27 to 1.52.

Logistic regression found that the factor on residence accounted for 5.09% of the resignations. The combination of round of workplace selection and the location of the medical school, explained 6.66% of the resignations. This means that several other factors play more important roles.

Table 4 Relative risk of four factors related to the resignation rates of new medical graduates.

Factors	Resign		Not resign		Relative risk (RR)
	No.	%	No.	%	
Gender					
male	68	22.4	236	77.6	1 (0.74-1.37)
female	58	22.3	202	77.7	1
Residence					
Bangkok and vicinity*	85	29.3	205	70.7	2.67 (1.8-3.95)**
Up country	28	11.0	227	89.0	1
Round of Selection					
Second	14	32.5	29	67.5	1.67 (1.05-2.66)
First	99	19.5	409	80.5	1
Medical Schools					
Bangkok	89	26.0	253	74.0	2.27 (1.49-3.44)***
Up country	24	11.5	185	88.5	1

Note:- * Bangkok and vicinity means Bangkok, Nonthaburi, Pathumthani, Samut Sakorn, and Sumut Prakarn provinces.

** After adjusting for those who graduated from medical schools in Bangkok, the RR becomes 2.15 (1.38-3.35)

*** After adjusting for those who reside in Bangkok, the RR become 1.52.

2. Indepth Interview

2.1 Causes of Resignation (Table 5)

Primary and secondary causes of resignations of new medical graduates were determined. Three equally important primary causes were found. Compulsory transfer from one province to an other^d (mismanagement of human resources) was the primary cause for 34.6% of resignations. Family reasons and desire for further specialty training were the primary causes of 32.1% and 28.4% of the resignations, respectively. Combining primary and secondary causes, family reasons were found in 56.8% of cases, while compulsory transfer and desire for further training were found in 45.7% and 32.1% of the resignations, respectively.

^d Those who failed to get the same working place in the matching had to be transferred to other provinces. These were usually those who failed the first round matching. This system was introduced with very short notice in 1997 selection.

Table 5 Primary and Secondary causes of resignation.

Primary (1°) Causes	Secondary (2°) causes						Total
	No 2°	Transfer	Family	Training	Financial	Others	
Compulsory transfer	7 (20.6%)	0	13	2	2	4	28 (34.6%)
Family* reasons	14 (41.2%)	7	0	1	0	4	26 (32.1%)
Further training	12 (35.3%)	2	6	0	0	3	23 (28.4%)
Financial reasons	0 0	2	1	0	0	0	3 (3.7%)
Others	1 (2.9%)	0	0	0	0	0	1 (1.2%)
Total	34 (42.0%)	11	20	3	2	11	81

Note:- * Family reasons mean (1) to be with the family, (2) to take care of parents/relatives, (3) parents' intention, (4) return to hometown.

Of the 34 (42.0%) resignees who responded with **no secondary causes**, family reasons were attributed to 14 resignees (41.2%). Desire for further specialty training and compulsory transfer were found as reasons for 12 (35.3%) and 7 (20.6%) of the resignees, respectively.

2.2 Workplace after Resignation (Table 6)

115 (91.3%) of the 126 resignees could be traced to their workplaces after resignation. 80 (69.6%) continued to work in public hospitals, of which 33 (28.7) were training in medical school hospitals, while 34 (29.6%) and 13 (11.3%) were working in public hospitals in Bangkok and outside of Bangkok, respectively. It should be noted that **7 (6.1%) of them went to work in district hospitals**, mainly in the central region. 33 (28.7%) of the resignees went to work in private hospitals.

Table 6 Workplace after resignation.

Workplace	No.	%
Training in medical schools	33	28.7
Private hospitals/clinics	33	28.7
Public hospitals in Bangkok	34	29.6
Public hospitals outside Bangkok	13	11.3
Study abroad	2	1.7
Total	115	100.0

Note:- 1. Public Hospitals in Bangkok are mainly with the Bangkok Metropolitan Administration, Medical Department.
2. Seven of the thirteen resignees who worked outside of Bangkok were in district hospitals.

3. Total samples in this table are 115 because information of the additional 34 cases can be derived from their friends. Samples in other table contain only 81 cases.

Table 7 shows that most of those who resigned because of compulsory transfer went to the private hospitals, while those who resigned due to family reasons mainly worked with public hospitals.

Table 7 Workplaces after resignation and primary causes of resignation.

1° Causes	Training in medical schools		Private hospitals/ clinics		Public hospital		Total	
	No.	%	No.	%	No.	%	No.	%
Transfer	5	17.9	14	50.0	9	32.1	28	34.6
Family	2	7.7	8	30.8	16	61.5	26	32.1
Training	16	69.6	1	4.3	6	26.1	23	28.4
Financia l	0	0.0	3	100.0	0	0.0	3	3.7
Others	1	100.0	0	0.0	0	0.0	1	1.2
Total	23	28.4	26	32.1	32	39.5	81	100.0

2.3 Original Workplaces and Primary Causes of Resignation

Table 8 showed that those who originally worked in the central and eastern region (more popular regions) had the compulsory transfer as their main cause of resignation. Those who originally worked in the hardship regions (north and northeast) resigned mainly for family reasons. Those who originally worked in the south resigned mainly for further training.

Table 8 Primary causes and workplaces before resignation.

1° Causes	Region of workplace											
	Central		North		South		East		Northeast		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Transfer	21	53.8	3	37.5	0	0	4	50.0	0	0	28	34.6
Family	7	17.95	5	62.5	4	30.8	1	12.5	9	69.2	26	32.1
Training	7	17.95	0	0	9	69.2	3	37.5	4	30.8	23	28.4
Financial	3	7.7	0	0	0	0	0	0	0	0	3	3.7
Others	1	2.6	0	0	0	0	0	0	0	0	1	1.2
Total	39	48.1	8	9.9	13	16.05	8	9.9	13	16.05	81	100

2.4 Causes and Month of Resignation

Table 9 shows that those who resigned due to compulsory transfer mostly left in May-June 1997. This was because they knew definitely that they would be transferred to other provinces in late April, and early May. Most of those who resigned due to family reasons and further training left before March 1997.

Table 9 Primary causes and month of resignation.

Month of resignation	Primary causes of resignation					Total	
	Transfer	Family	Training	Financial	Others	No.	%
Before 01/97	0	8	9	0	1	18	22.2
01-02/97	3	8	9	0	0	20	24.7
03-04/97	6	3	2	3	0	14	17.3
05-06/97	19	7	3	0	0	29	35.8
Total	28	26	23	3	1	81	100.0

2.5 Opinions on Working in Rural District Hospitals

Table 10 reveals that about two-thirds of those who resigned due to compulsory transfer, training, and financial causes felt comfortable working in rural district hospitals. On the contrary, two-thirds of those who resigned for family reasons felt insecure to work in rural district hospitals.

Table 10 Primary Causes of resignation and opinions on working in rural district hospitals.

1° Causes	Opinion						Total
	Comfortable		Insecure		No response		
	No.	%	No.	%	No.	%	
Transfer	18	64.3	9	32.1	1	3.6	28
Family	8	30.7	17	65.4	1	3.9	26
Training	14	60.9	9	39.1	0	0.0	23
Financial	2	66.7	1	33.3	0	0.0	3
Others	0	0.0	1	100.0	0	0.0	1
Total	42	51.9	37	45.7	2	2.5	81

2.6 Income After Resignation

Table 11 shows that those who left to work in the private sector received the highest income. More than 50% received income over 60,000 Baht (\$US 2,400) per month. They could definitely pay back the fine (\$US 10,000) within 6 months. 87% of those who went for further training received the lowest income, averaging less than 10,000 Baht (\$US 400) per month.

Table 11 Monthly income after resignation.

Monthly income (Baht)	Workplace after resignation						Total	
	Training in medical schools		Private hospital/clinics		Public hospitals		No.	%
	No.	%	No.	%	No.	%		
8,000 - 10,000	20	87.0	1	3.9	1	3.1	22	27.2
11,000 - 20,000	1	4.3	0	0.0	8	25.0	9	11.1
21,000 - 30,000	1	4.3	0	0.0	14	43.8	15	18.5
31,000 - 60,000	1	4.3	11	42.3	9	28.1	21	25.9
61,000 and above	0	0.0	14	53.8	0	0.0	14	17.3
Total	23	28.4	26	32.1	32	39.5	81	100.0

2.7 Gender and Primary Causes of Resignation

Although gender had no relation to rate of resignation, it did have a relation to the primary causes of resignation. Table 12 shows that family reasons was the main factor influencing female doctors to resign. The main causes for men to resign were

compulsory transfer and desire for further training. As the proportion of female medical graduates is increasing⁽⁶⁾, family reasons may be more important in the near future.

Table 12 Gender and primary causes of resignation.

Primary causes	Gender				Total
	male		female		
	No.	%	No.	%	
Transfer	17	39.5	11	28.9	28
Family	9	20.9	17	44.7	26
Training	14	32.5	9	23.7	23
Financial	3	7.0	0	0.0	3
Others	0	0.0	1	2.6	1
Total	43	100.0	38	100.0	81

2.8 Residence and Primary Causes of Resignation

It is quite clear in Table 13 that those who came from up country locations resigned mostly because of compulsory transfer. Those from Bangkok and vicinity left for the three main causes more or less equally.

Table 13 Residence and primary causes of resignation.

Primary causes	Residence				Total
	Bangkok and vicinity		Upcountry		
	No.	%	No.	%	
Transfer	20	28.5	8	72.7	28
Family	24	34.3	2	18.2	26
Training	22	31.4	1	9.1	23
Financing	3	4.3	0	0.0	3
Others	1	1.4	0	0.0	1
Total	70	100.0	11	100.0	81

Discussion and Recommendations

The reasons that doctors do not stay in rural areas are multiple and complex. Wibulpolprasert⁽⁶⁾ describes three groups of factors determining HRH distribution, i.e., socio-economic, health service development, and human resources management. Several attempts are used to retain doctors in the rural district hospitals. Compulsory public work for new medical graduates is one such attempt. In Thailand, after 28 years of compulsory contract with medical students, 49.5% of rural district hospital doctors are new graduates⁽¹²⁾. This means that the many attempts, including financial incentives, have limited success in distributing doctors to rural areas. The severe shortage of doctors in rural district hospitals in recent years, partly from booming expansion of urban private hospitals, is a major impediment to rural health development in Thailand. Previous studies and measures used in solving inequitable doctor distribution usually focused on incentives to attract doctors to rural areas, e.g., financial incentives, housing, medical facilities, continuing education and logistic support. These are factors that **pull** doctors to rural areas. Studies on factors that **push** doctors away from the rural district hospitals are needed so that preventive measures can be developed. Rayawa⁽¹⁰⁾ in 1997 reported from a

questionnaire survey that 74.6% of the doctors that continue to work in rural hospitals felt that the reason their colleagues resigned was to protest against compulsory transfer after working for one year in a provincial hospital. They preferred to continue working in the same provincial hospital or in district hospitals of the same province or nearby province. But due to the severe shortage of doctors in many rural hospitals, they were redistributed elsewhere. The study is, however, based on the subjective feelings from those doctors who remained in the system.

This current study focused on those new medical graduates who breached their contracts, resigned from the MoPH, and paid their fines. We found that there are three equally important primary causes for their resignations, i.e., **compulsory transfer, family reasons, and desire for further training**. However, if we consider both primary and secondary causes, family reasons are cited in 56.7% of the resignees. This goes along quite well with the retrospective cohort study that reveals the main factor related to resignation as residence. Those new graduates who came from Bangkok and vicinity have a relative risk of resignation 2.15 times higher than those from up country.

We also found that 58% of those who resigned have more than one reason. Thus any attempts at solving this problem need to focus on several factors. The previous measures of providing financial incentives and improving medical and logistic support are not enough. It is almost impossible for the public sector to compete with the financial incentives of the private sector. We found that those who resigned and worked with the private sector earned 2-4 times more than those who worked with the public sector. Proper and well planned human resources management and health systems development focused on primary care can prevent excessive resignation from dissatisfaction with workplace placement and interest in specialty training. Recruitment of medical students from rural areas can prevent need for relocation due to family reasons.

Good management of human resources is thus one important factor influencing the equitable distribution of doctors. The MoPH should plan ahead in distributing the first year medical graduates so that they can continue to work in the same province or at least in the provinces in the same region, in the second and third years of their compulsory contracts. Clear information on the allocation criteria should be given to the graduates well in advance. Some flexibility should be allowed considering equitable distribution as well as satisfaction of doctors. In 1998, with the economic crisis and the amelioration of problems regarding mismanagement of human resources (prior planning of distribution with much less compulsory transfer), there was a significant reduction in the net loss of doctors (Table 14), both from reduction in number of resignees and increase in number of reapplicants.

Table 14 Net loss of doctors as compare to new graduates in MoPH.

Year	Number			Net loss	
	new graduates	resignees	reapplicants	No.	%
1994	526	42	-	42	8.0
1995	576	71	-	71	12.3
1996	568	98	-	98	17.3
1997	579	205	30	175	30.2
1998	618	117	93	24	3.6

Source : Personnel Division, Office of Permanent Secretary, MoPH.

Recruitment of medical students from rural areas is also a very important factor that may yield longer term results^(4, 13-16). The Collaborative Project to Increase Rural Doctor Production (CPIRD) involving the MoPH and 6 medical schools⁽¹⁷⁾ is geared toward long term success in the equitable distribution of doctors. Careful long term evaluation of the outcome of the project is needed to reconfirm this rationale.

Conclusion :

Multiple complex factors contributed to the inequitable distribution of doctors in Thailand. Multiple solutions including financial incentives, recruitment of rural medical students, proper management for continuing education, and good medical and logistic support have been developed and used as pulling factors with varying degree of success. Measures to prevent the early resignation of doctors from rural hospitals, particularly well planned human resources management and health services development based on primary care, are as important as other pulling incentives. Continuity of integrated and holistic packages of strategies are needed for long term success. Reduction of overall social inequity is basically the impetus for all solutions. This study not only confirms the implications of recruitment of rural medical students to the equitable distribution of doctors, but also confirms the importance of efficient and flexible human resource management.

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