



Differences in practice income between solo and group practice physicians

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Abstract

An examination of the distribution of physician incomes between different types of practices could help policymakers and researchers alike to gain an understanding of the effects of different organizational characteristics of practices on the practice of medicine as a whole. This study uses a national database to explore the relationships that exist between practice incomes and practice types vis-à-vis the overall size of practices. The primary data source for this study, which includes 7757 office-based physicians, was provided by the Taiwan Department of Health (DOH), with the dependent variable of interest to this study being the annual gross income of physician practices, while the independent variables are physician practice types and the number of physicians within a clinic. Multiple regression analyses were used to model the logarithm of annual physician practice incomes as a linear function of a set of independent variables. Kruskal–Wallis test results revealed the existence of significant relationships between practice incomes and practice types ($p < 0.001$) and the number of physicians within a clinic ($p < 0.001$). Multiple regression analysis also showed that after adjusting for socio-demographic and professional characteristics, the annual incomes of physicians in both single-specialty or multi-specialty group practices ($p < 0.001$) were higher than those of their solo practice counterparts. This study concludes that after adjusting for other factors, higher practice incomes are enjoyed by physicians in single-specialty or multi-specialty group practices as compared to their solo practice counterparts. The finding of higher incomes for those physicians organized into groups supports the policy call from the DOH in Taiwan for the widespread formation of group practices.

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1. Introduction

Over the past few decades, group practice has become the prevailing mode of medical practice for

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physicians in many countries. According to a national survey undertaken in the US, for example, over one-third of practicing physicians were organized as group practices in 1996 [1]; while in the UK, the Royal College of General Practitioners announced that in 2001, 91.5% of family physicians were organized as partnerships [2]. As regards Canada, Williams et al. reported that in 1990, 58% of all private physicians were in either group practices or partnerships [3].

The increasing prevalence of group practices has become a leading force in the establishment of medical practices and the reorganization of healthcare delivery systems in many Western countries. Accordingly, following the implementation of the National Health Insurance Program in 1995, the Department of Health (DOH) in Taiwan also began to encourage self-employed office-based physicians, who were completely independent of hospitals, to form themselves into group practices so as to strengthen their leverage in an increasingly competitive environment. In response to this policy call by the DOH, approximately 30% (3195/11,136) of all office-based physicians had subsequently joined group practices by 2002, and as a result, for many office-based physicians in Taiwan, group practice is gradually becoming the alternative mode of practice to traditional solo practice [4].

Many of the previous studies in this area have suggested that group practices can offer a wide range of medical services, achieve the effective sharing of expenses, allow the sharing of professional opinions with other physicians, build local healthcare market power, provide greater access to capital and enhance the overall quality of life for physicians [5–7]. However, despite these claims, many office-based physicians are still very reluctant to join group practices, largely due to the limited amount of research undertaken on the implementation of group practices over the past decade, both in Taiwan and in the US [8]. In particular, there has been little attention paid to the effects of practice types on physician incomes, since the majority of the prior studies on the effects of the organizational settings of different types of physician practices have focused purely on the relative efficiency or productivity levels between solo and group medical practices [9–11].

Nevertheless, an understanding of physician practice incomes in different practice types could enable physicians to select for themselves the most suitable organizational setting for their medical practice, while

also helping policymakers and researchers alike to gain an understanding of the effects of the organizational characteristics of practices on the practice of medicine as a whole. This study uses a national database to explore the relationship between physician practice incomes and practice types vis-à-vis the overall size of the practices (the number of physicians in a clinic).

Our study setting is Taiwan, within which there is universal, comprehensive healthcare coverage under a single payer system, combined with a mix of public, private and not-for-profit hospitals, each competing for patients alongside physician practices. The healthcare scenario in the US is characterized by dynamic variations over time in rate contracts with insurers, and across providers and markets, as well as variable quantities of charitable care, attributes which make it extremely difficult to accurately estimate the effects of practice settings on physician incomes.

The scenario in Taiwan contrasts sharply with that of the US, since there is no scope for differential rate contracts and, given its universal coverage, income differences across practice settings could be expected to reflect the demand for healthcare services within a community. In addition, since all claims are logged into the National Health Insurance (NHI) database, as opposed to survey data, the actual reimbursement rate effectively precludes any recall or social desirability bias. While this study provides important policy guidance for use in Taiwan, many other countries considering a move towards the establishment of a similar healthcare system design may also benefit from its policy implications for healthcare manpower planning.

2. Methods

This study uses 2002 out-patient claims data provided by the Department of Health in Taiwan; out-patient care in Taiwan is divided almost equally between hospital out-patient departments (55%) and office-based physician practices (45%). Hospital-based physicians are compensated with highly variable combinations of salary, bonus, volume-driven fees, and so on, while they also engage in teaching and research; furthermore, their in-patient work is not reimbursed by the NHI on an itemized basis, and while hospital-based physicians see out-patients in their respective hospital out-patient departments, most office-based physicians

do not have admission privileges within the hospitals. The office-based practice market is therefore relatively isolated from the hospital-based market, which thereby permits comparisons between group and solo practice incomes which are not confounded by individual efforts or income related to in-patient care provided by these physicians. Furthermore, the range of services of office-based physicians and hospital-based physicians are almost mutually exclusive; thus, reliable comparisons are possible between the practice incomes of hospital-based physicians and those of clinic-based physicians.

The database used in this study comprised of socio-demographic information, practice settings and structures, and monthly BNHI claim summaries for patient fees for 2002, initially on 9323 office-based physicians. However, in order to better reflect the actual scenario of physician practices in Taiwan, physicians aged over 75 years ($n=363$) were excluded from the study, as were those who worked less than 12 months per year ($n=1203$). Ultimately, we were left with 7757 physicians who met the study criteria.

The dependent variable of interest to this study was the annual gross practice income of physicians, which was defined as the total annual monetary amount of medical benefits claimed, as well as clinic registration fees paid directly by patients. Since the global budget has been enforced on primary care clinics since 2001, the monetary amounts of total medical benefits claimed by office-based physicians were adjusted in this study by a monthly discount value according to the relative value of dollars claimed.

The majority of office-based physicians also charged patients between NT\$ 0.00 and NT\$ 150.00 for clinic registration fees, with this fee generally being higher in urban areas than in rural areas. Since the data on registration fee was not available in the dataset, we therefore used different fee schedules (from NT\$ 0.00 to NT\$ 150.00) – based upon the degree of urbanization of the community in which the clinic was located – to calculate the total annual clinic registration fees charged by each office-based physician. The degree of urbanization of each community was classified into eight stratifications according to the standards published by the Institute of Occupational Safety and Health in Taiwan (1 = most urbanized; 8 = least urbanized) [12]. These standards included population density, age structure, immigration rate, economic activ-

ities, average family incomes, educational level, and healthcare facilities. The registration fees selected for this study were NT\$ 150.00 for levels 1 and 2; NT\$ 100 for levels 3 and 4; NT\$ 50 for levels 5 and 6; NT\$ 0.00 for levels 7 and 8 (the average exchange rate in 2002 was US\$ 1 = NT\$ 33.5).

The key independent variables of interest to this study were physician practice types and the number of physicians within a clinic. Physician practice types were classified as solo practice, single-specialty group practice and multi-specialty group practice, while the total numbers of physicians within a clinic were grouped as one, two, three, four, and five or more. Based upon previous studies on physician incomes, the control variables in this study were physician age (as an indicator for practical experience), gender, practice specialty, location of clinic, and urbanization of the community [13–18].

All physicians were classified into five age groups: ≤ 35 ; 36–45; 46–55; 56–65; 66–75 years. With regard to physician specialty, although many physicians have more than one specialty certificate, they were categorized on the basis of the self-designated medical specialty as reported to the DOH. Specialties were divided into 12 categories in this study: general practice; family practice; internal medicine; surgery; pediatrics; obs/gyn; orthopedics; otolaryngology; ophthalmology; dermatology; rehabilitation; others. In addition, based upon the BNHI division within which each clinic claimed its medical benefits, clinic locations were divided into the cities of Taipei and Kaohsiung, and the Northern, Central, Southern and Eastern regions of Taiwan.

The Statistical Package for the Social Sciences (SPSS 12.0 for Windows, 2003, SPSS, Chicago, IL) was used in this study. Descriptive statistical analyses including frequency, percentage, mean and standard deviation were performed on all of the identified variables. Kruskal–Wallis tests were carried out in order to examine the relationships between physician incomes and practice types vis-à-vis the number of physicians within a clinic. Multivariate regression analyses were also used to model the logarithm of physician practice incomes as a linear function of a set of independent variables. Given the existence of high collinearity between practice types and the number of physicians within a clinic, two separate regression analyses were performed in this study. In addition, separate

Table 1
Physician characteristics and annual gross incomes of physician practice

Variable	Practice type		
	Solo, <i>n</i> (%)	Single-specialty, <i>n</i> (%)	Multi-specialty, <i>n</i> (%)
All physicians	5292	1674	791
Number of physicians in a clinic			
1	5292 (100.0)		
2		1338 (80.0)	432 (54.7)
3		261 (15.5)	195 (24.5)
4		60 (3.5)	76 (9.5)
5 or more		15 (1.0)	88 (11.3)
Age (year)			
≤35	100 (1.9)	126 (7.5)	56 (7.1)
36–45	1785 (33.7)	898 (53.6)	369 (46.6)
46–55	2059 (38.9)	452 (27.0)	224 (28.3)
56–65	898 (17.0)	140 (8.4)	94 (11.9)
66–75	450 (8.5)	58(3.5)	48 (6.1)
Gender			
Male	5094 (96.3)	1478 (88.3)	656 (82.9)
Female	198 (3.7)	196 (11.7)	135 (17.1)
Specialty			
General practice	1576 (29.8)	423 (25.3)	107 (13.5)
Family practice	621 (11.7)	111 (6.6)	142 (18.0)
Internal medicine	733(13.9)	161 (9.6)	108 (13.7)
Surgery	224 (4.2)	17 (1.0)	56 (7.1)
Pediatrics	476 (9.0)	217 (13.0)	108 (13.7)
Ob/gyn	432 (8.2)	152 (9.1)	64 (8.1)
Orthopedics	55 (1.0)	19 (1.1)	19 (2.4)
ENT	495 (9.4)	245 (14.6)	90 (11.4)
Ophthalmology	331 (6.3)	181 (10.8)	34 (4.3)
Dermatology	145 (2.7)	91 (5.4)	18 (2.3)
Rehabilitation	57(1.1)	0	16 (2.0)
Others	147 (2.8)	57 (3.4)	29 (3.7)
Clinic location			
Taipei branch	1474 (27.9)	587 (35.1)	328 (41.5)
Northern branch	603 (11.4)	185 (11.1)	124 (15.7)
Central branch	1164 (22.0)	409 (24.4)	136 (17.2)
Southern branch	904 (17.1)	234 (14.0)	75 (9.5)
Kaohsiung branch	1003 (19.0)	242 (14.5)	105 (13.3)
Eastern branch	144 (2.7)	17 (1.0)	23 (2.9)
Urbanization level			
1 (highest)	633 (12.0)	217 (13.0)	159 (20.1)
2	1738 (32.8)	526 (31.4)	249 (31.5)
3	1070 (20.2)	366 (21.9)	141 (17.8)
4	452 (8.5)	156 (9.3)	90 (11.4)
5	705 (13.3)	273 (16.3)	88 (11.1)
6	352 (6.7)	77 (4.6)	43 (5.4)
7	252 (4.8)	42 (2.5)	17 (2.1)
8 (lowest)	90 (1.7)	17 (1.0)	4 (0.5)

regression analyses were performed to explore the adjusted relationship between practice type and log practice incomes according to physician specialty, gender and urbanization level of the community. The differences were considered significant if a two-sided p -value was less than, or equal to 0.05.

3. Results

Table 1 summarizes the descriptive statistics of the office-based physicians in our sample. Of the total sample of 7757 office-based physicians, the mean annual practice income was NT\$ 8,562,296, with a standard deviation of NT\$ 6,649,328. Almost 70% of all physicians were in solo practices, while 21.6% were in single-specialty groups and the remaining 10.2% were in multi-specialty groups. As to the number of physicians within a clinic, 68.3% were categorized as ‘one’; 22.8% were categorized as ‘two’; 5.9% were categorized as ‘three’; 1.7% were categorized as ‘four’; 1.4% were placed in the category of ‘five or more’.

Table 2 describes the unadjusted relationships between physician practice incomes and practice types vis-à-vis the number of physicians within a clinic. Kruskal–Wallis tests indicated the existence of significant relationships between physician practice incomes and practice types ($p < 0.001$) and the number of physi-

cians within a clinic ($p < 0.001$). Of all practice types, those physicians in single-specialty groups had the highest practice incomes, whereas those in solo practices had the lowest. Practice incomes in clinics comprising of four physicians were higher than those of their counterparts in all other clinics (with fewer or more than four physicians).

The adjusted relationships between physician practice incomes and practice types are provided in Table 3. It can be seen from this analysis that 33.5% of the observed variations in physician practice incomes were explained by the selected independent variables. Multiple regression analyses showed that after adjusting for other factors, physicians in both single-specialty ($p < 0.001$) and multi-specialty group practices ($p < 0.001$) had higher practice incomes than their counterparts in solo practices. The analyses also showed a significant relationship between physician practice incomes and physician gender, age, specialty, certificate status and urbanization level and the location of the clinic.

Table 3 also displays the adjusted relationships between physician practice incomes and the number of physicians within a clinic, showing that after adjusting for other factors, higher practice incomes were enjoyed by those physicians practicing in clinics with two ($p < 0.001$), three ($p < 0.001$), four ($p < 0.001$) or five or more ($p < 0.001$) physicians than by those in solo practices. Furthermore, of all physician groups,

Table 2
Unadjusted relationships between physician incomes and practice types and the size of the practice by Kruskal–Wallis test

Variable	Physician practice incomes			p -Value
	n	Mean (S.D.)	Median (range)	
Practice types				$p < 0.001$
Solo practice	5292	7817015 (5098966)	7178822 (54471922)	
Single-specialty	1674	10644687 (9411683)	8883159 (101498581)	
Multi-specialty	791	9733810 (8023862)	8324291 (78342310)	
Total	7757	8622701 (6697191)	7676677 (101600597)	
Number of physicians				$p < 0.001$
1	5792	7817015 (5098966)	7178822 (54471922)	
2	1772	10000498 (8524874)	8388633 (101517073)	
3	454	10814821 (9515794)	9161134 (90068503)	
4	134	12340343 (11899194)	10221919 (79295317)	
5 or more	105	11754586 (9753507)	9563433 (54565672)	
Total	7757	8622701 (6697191)	7676677 (101600597)	

S.D.: standard deviation; in 2002, the average exchange rate was US\$ 1 = NT\$ 33.5.

Table 3
Multiple regression analyses for adjusted relationships between log practice incomes and practice types and physician number

Variable	Log (mean annual practice income)			
	Practice type vs. income		Physician number vs. income	
	<i>B</i>	<i>p</i> -Value	<i>B</i>	<i>p</i> -Value
Practice types				
Solo practice				
Single-specialty group (no. = 0)	0.083	<0.001		
Multi-specialty group (no. = 0)	0.084	<0.001		
Number of physicians				
1				
2 (no. = 0)			0.073	<0.001
3 (no. = 0)			0.089	<0.001
4 (no. = 0)			0.176	<0.001
5 and over (no. = 0)			0.127	<0.001
Gender				
Male	0.126	<0.001	0.129	<0.001
Female (no. = 0)				
Age (year)				
<35 (no. = 0)	-0.053	0.003	-0.053	0.004
36–45				
46–55 (no. = 0)	-0.122	<0.001	-0.122	<0.001
56–65 (no. = 0)	-0.321	<0.001	-0.320	<0.001
65–75 (no. = 0)	-0.609	<0.001	-0.609	<0.001
Specialty				
General practice				
Family practice (no. = 0)	0.015	0.193	0.015	0.204
Internal medicine (no. = 0)	0.054	<0.001	0.054	<0.001
Surgery (no. = 0)	0.016	0.270	0.015	0.306
Pediatrics (no. = 0)	0.032	0.003	0.033	0.003
Ob/gyn (no. = 0)	-0.137	<0.001	-0.138	<0.001
Orthopedics (no. = 0)	0.159	<0.001	0.160	<0.001
ENT (no. = 0)	0.112	<0.001	0.111	<0.001
Ophthalmology (no. = 0)	0.106	<0.001	0.105	<0.001
Dermatology (no. = 0)	0.120	<0.001	0.118	<0.001
Others (no. = 0)	0.076	0.017	0.067	0.036
Urbanization level				
1 (highest) (no. = 0)	-0.062	<0.001	-0.064	<0.001
2				
3 (no. = 0)	0.029	0.757	0.003	0.727
4 (no. = 0)	0.016	0.184	0.017	0.182
5 (no. = 0)	-0.020	0.069	-0.019	0.074
6 (no. = 0)	-0.026	0.072	-0.025	0.087
7 (no. = 0)	-0.058	<0.001	-0.057	<0.001
8 (lowest) (no. = 0)	-0.003	0.929	-0.002	0.942
Clinic location				
Taipei branch				
Northern branch (no. = 0)	-0.026	0.775	-0.025	0.906
Central branch (no. = 0)	-0.055	<0.001	-0.054	<0.001
Southern branch (no. = 0)	0.018	0.001	0.020	<0.001
Kaohsiung branch (no. = 0)	0.035	<0.001	0.037	<0.001
Eastern branch (no. = 0)	0.068	<0.001	0.066	<0.001
Constant	6.718	<0.001	6.688	<0.001
<i>n</i>	7756		7756	
Adjusted <i>R</i> ²	0.335		0.337	
<i>F</i>	127.155	<0.001	120.289	<0.001

Table 4
Multiple regression analyses for adjusted relationships between log practice incomes and practice types by physician specialty

Variable	Specialty							
	General practice	Surgery	Ob/Gyn	Orthopedics	Otolaryngology	Ophthalmology	Dermatology	Others
Practice type								
Solo (reference group)								
Single-specialty (no. = 0)	0.104***	0.111*	0.102**	0.127***	0.116**	0.126**	0.102*	0.125*
Multi-specialty (no. = 0)	0.089***	0.110*	0.181***	0.125***	0.103*	0.108**	0.098*	0.201**

Note: general practice includes the specialties of general practice, family practice, internal medicine, and pediatrics; the results of the multiple regression analysis have been adjusted for physician age, gender, location of clinic, and urbanization level of the community.

* $p < 0.05$.
 ** $p < 0.01$.
 *** $p < 0.001$.

Table 5
Multiple regression analyses for adjusted relationships between log practice incomes and practice types by physician gender and urbanization level of the community

Variable	Specialty			
	Gender		Urbanization level	
	Male	Female	High	Low
Practice type				
Solo (reference group)				
Single-specialty (no. = 0)	0.091***	0.099***	0.092***	0.043**
Multi-specialty (no. = 0)	0.087***	0.072**	0.087***	0.052**

Note: the results of the multiple regression analysis have been adjusted for physician age, gender, specialty, and location of clinic; the high urbanization level of the community includes urbanization levels 1–4; the low urbanization level of the community includes urbanization levels 5–8.

** $p < 0.01$.
 *** $p < 0.001$.

the highest practice incomes were enjoyed by those practicing in clinics comprising of four physicians.

It is also noteworthy that the gender, age and specialty of physicians, as well as the location of clinics, were significantly related to practice incomes. In 2002, male physicians earned more than their female physicians, while physicians in the age groups of ≤ 35 ($p = 0.004$), 46–55 ($p < 0.001$), 56–65 ($p < 0.001$) and 66–75 ($p < 0.001$) years had significantly lower practice incomes than those in the 36–45 age group. As compared to those in general practice, significantly higher practice incomes were enjoyed by physicians specializing in internal medicine ($p < 0.001$), pediatrics ($p = 0.003$), orthopedics ($p < 0.001$), otolaryngology ($p < 0.001$), ophthalmology ($p < 0.001$), dermatology ($p < 0.001$) and rehabilitation ($p < 0.001$), while those specializing in obs/gyn ($p < 0.001$) had significantly lower annual incomes.

Tables 4 and 5 summarize the adjusted relationships between physician practice incomes and practice type according to physician specialty, gender, and urbanization level of communities. They consistently show that physicians in both single-specialty and multi-specialty group practices had significantly higher practice incomes than their counterparts in solo practices in all physician specialties, gender, and urbanization level of communities.

4. Discussion

Group practice has gained significant ground in many countries over recent decades, with many of the prior studies suggesting that the advantages of group practices include the ability to: (i) improve patient care; (ii) achieve the effective sharing of expenses;

(iii) achieve the sharing of professional opinions with other physicians; (iv) provide opportunities for young physicians to enter established practices; (v) enhance the overall quality of life of physicians; (vi) build local healthcare market power; (vii) provide greater and easier access to capital; (viii) create an efficient method for workload sharing [6,8,19–21]. Nevertheless, the effective implementation of the group practice model in Taiwan is still at an embryonic stage.

A population-based database was adopted by this study to explore the relationships existing between physician practice incomes and the type of practice vis-à-vis the number of physicians within clinics in Taiwan. We find that after controlling for socio-demographic and professional characteristics, higher practice incomes were enjoyed by physicians in both single-specialty and multi-specialty group practices, as compared to their counterparts in solo practices. This finding is consistent with the study of Wolinsky and Marder which concluded that physicians in solo practice had significantly lower incomes than their counterparts in group practices [17]. Our finding is also consistent with the study of Berg and Elliott which found a positive correlation between physician income and practice size [18]. Our findings should also be viewed in light of the findings of the US studies which have demonstrated that the group practice model provides additional professional and administrative advantages, such as local healthcare market power and easier access to capital [6,7].

Our empirical study suggests that physicians in group practices enjoy higher practice incomes than their counterparts in solo practices. Knowledge of the superior incomes achievable in group practices allows office-based physicians to consider for themselves the most suitable practice type for their specialty. Our findings of higher incomes for physicians in group practices, as compared to solo practices, also supports the policy call from the DOH in Taiwan for the widespread formation of group practices in an effort to halt the incessant decline in the overall number of primary care clinics.

This study also finds higher earnings amongst male physicians over their female counterparts, a finding which supports the earlier US studies conducted by Ohsfeldt and Culler [22], Wallace and Weeks [23] and Dial et al. [24], each of which consistently reported that

male physicians enjoyed significantly higher hourly earnings, and overall income levels, than female physicians. We also find that physician age is an important predictor of physician practice incomes; more precisely, higher practice incomes are enjoyed by physicians aged between 36 and 45 than their counterparts in other age groups. This finding supports that of a previous study in Quebec, which reported that physicians in the ‘prime’ groups (generalists aged 31–50 years and specialists aged 35–50 years) enjoyed higher incomes than those in either younger or more senior groups [15]. There are, however, very few studies on physician incomes which have taken physician age into consideration; as such, the factors contributing to higher incomes amongst middle-aged physicians remain unclear.

This study has also found that physician specialty is one of the most important factors explaining variations in physician earnings, a finding which is consistent with the earlier studies of Langenbrunner et al. [26], Wolinsky and Marder [17], and Simon and Born [13] each of which found a significant correlation between physician incomes and physician specialty. As expected, higher incomes were enjoyed in Taiwan by those physicians specializing in orthopedics, otolaryngology, ophthalmology, dermatology and rehabilitation, than those in other specialties. In contrast, the lowest incomes of all specialties were found amongst those physicians specializing in obs/gyn.

This study suffers from three inherent limitations. First of all, our study did not permit us to precisely determine the causal relationships between practice type and physician incomes. Although one-year cross-sectional data does provide a detailed picture of these causal relationships, they can only be definitively determined with a design using longitudinal data.

Secondly, many of the prior studies have documented variations in physician incomes due to the number of working hours per week, or weeks per year; the dataset used in this study does not contain information on the total number of days or weeks worked in any given year. However, one study has reported that physician in group practice on average have fewer working hours than those in solo practice in Taiwan [27]. Therefore, we believe that the higher physician incomes in group practice found in this study would still sustain even after taking the number

of physician working hours into consideration. Further research is needed to clarify the relationships between physician income, practice type and the total amount of time worked in a year.

Thirdly, since the data on costs for office-based physicians is unavailable, this study reports significant differences only in the gross incomes of physician practices, as opposed to their net incomes. It is clear that practice costs could vary significantly, both between specialties and between practices, but previous studies have documented that one of the advantages of forming group practice is to reduce overhead and practice expenses [5,7]. However, while shared practice expenses may be less in group practices, solo practitioners may have the opportunity to put profits back into the practice. These assets (e.g. building a bigger office, buying office equipment, etc.) would not be considered salary but would be solely owned and have benefit to a solo-practitioner in a manner not realized by group practitioners.

Despite these limitations, our observation of superior physician incomes in group practices, relative to solo practices, along with the documented superior service quality [28], higher productivity [29] and higher satisfaction level of physicians [27] within group practices in Taiwan, supports the case for consolidation of solo practices into groups, providing empirical evidence for policymakers to encourage office-based physicians to form such groups. We believe that such consolidation will provide a win–win situation for all, benefiting patients, physicians and indeed, the government, due to the resulting market-driven shift in the out-patient care preferences of the population to office-based settings, and a consequent reduction in overall healthcare expenditure (the reimbursed rate for providing the same medical services in hospital outpatient departments is about triple of that in office-based clinics).

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