

RESPONSE TO THE REVIEWER

For Reviewer

Comment # 1

They choose to keep the large group of internal medicine doctors as the reference in their statistical models, the argument for this being that this is the largest group. However, it is clear from other comments that this is also a very heterogeneous group, so I still maintain that it might be better to use a more homogeneous group for reference, alternatively to choose another contrast function.

Response: Thanks for your comments. We have followed your advice and decided to use a more homogeneous group, surgeons, as the referent alternatively in the Cox regression model. The results appear the same (i.e., all hazard ratios of covariates except those of specialties) and summarized in the following table:

Table. Hazard ratios with 95% CI (confidence interval) estimated through Cox regression model to control relevant risk factors on mortality among Taiwan doctors from 1990 to 2006.

Covariate	Hazard ratio	95% CI
Age of beginning practice		
	1.12	1.12-1.13
Gender		
Female/male	0.76	0.56-1.02
Specialty		
Internist / Surgeon	0.81	0.69-0.96
Dermatologist / Surgeon	0.97	0.67-1.40
Otolaryngologist / Surgeon	0.69	0.49-0.96

Ophthalmologist / Surgeon	0.59	0.42-0.83
Pathologist/ Surgeon	0.65	0.27-1.59
Pediatrician / Surgeon	0.74	0.54-1.01
Psychiatrist / Surgeon	0.65	0.41-1.03
Radiologist / Surgeon	0.71	0.43-1.15
Obstetrician / Surgeon	0.97	0.74-1.26
Orthopedist / Surgeon	0.61	0.35-1.05
Anesthesiologists/ Surgeon	1.60	0.96-2.69
Region		
Central / Northern	1.12	0.97-1.29
Southern / Northern	1.30	1.17-1.45
Eastern / Northern	1.68	1.28-2.20
Doctor-population ratio		
1 : 700 to 1 : 500 / >1 : 500	1.23	1.06-1.42
1 : 900 to 1 : 700 / >1 : 500	1.20	1.06-1.34
<1 : 900 / >1 : 500	1.18	1.00-1.39
Year of beginning practice		
After 1995/ Before1995	6.17	4.27-8.92

Please kindly see the revised 1st paragraph of the Discussion section, as follows:
(Please see page 11, ll. 9-17)

(Table 4). Because doctors in Taiwan generally have higher earnings than all other segments of professionals and there is no upper limit of retirement age, we have decided to select “internal comparisons” among doctors with the same socioeconomic status, profession-related knowledge and health-related behaviour, to prevent confounding and would leave the effects of mortality to the other two main factors, occupational workload or practice environment. In additional to internists, we have tried to use surgeons as a possibly more homogeneous reference group and the hazard ratios of all covariates are the same except those of specialties, demonstrating a robust result for our inference.

Comment # 2

I still have problems with understanding how the Taiwanese doctors work in relation to hospitals; are all doctors affiliated with hospitals? Don't you have any "real" general practitioners who only work only in their own "surgery" (to use the UK-expression)? And if so, isn't this a group that should be identified in the statistical modelling?

Response: Again, thanks for your comment. Since 1995, Taiwan has implemented mandatory universal health insurance program with a single-payer system. Bureau of national health insurance only contracts with hospitals or clinics and doctors were only allowed to practice at one contracted hospital or run a private clinic. That is a closed system and it comes up with the lowest administration cost of health care in the world (at less than 2% of the total premium). Generally, surgeons as well as anesthesiologists in Taiwan must choose hospital as a workplace to perform major operations, rather than own a clinic. In other words, we do not have general practitioners who can undertake major operations outside hospitals. And family doctors or general practitioners in Taiwan usually open their clinics after their residency training in hospitals and they are included in the internists group. As my response to your first comment, I have re-run the statistical analysis with surgeons as a more homogeneous reference group and the results appear the same.