

**For discussion  
on 11 November 2013**

**Legislative Council Panel on Health Services  
Subcommittee on Health Protection Scheme**

**Strategic Review on  
Healthcare Manpower Planning and Professional Development –  
Progress of the Commissioned Studies**

**PURPOSE**

This paper briefs Members on the progress of the studies being conducted by the University of Hong Kong (HKU) and the Chinese University of Hong Kong (CUHK) for the purpose of the Strategic Review on Healthcare Manpower Planning and Professional Development.

**BACKGROUND**

2. As part of our on-going efforts to reform the healthcare system, a high-level steering committee was established in January 2012 to conduct a strategic review on healthcare manpower planning and professional development in Hong Kong. Chaired by the Secretary for Food and Health, the Steering Committee on Strategic Review on Healthcare Manpower Planning and Professional Development is tasked to formulate recommendations on how to cope with anticipated demand for healthcare manpower, strengthen professional training and facilitate professional development, with a view to ensuring the healthy and sustainable development of our healthcare system. The review covers primarily the 13 healthcare professions under statutory regulation. For those not statutorily regulated at the moment, the review will also look into issues relating to their future development, including whether or not they should be subject to regulatory control of some form.

3. To assist the Steering Committee in making informed recommendations to the Government on the means and measures to ensure an adequate supply of healthcare professionals and strengthen professional development of the 13 healthcare professions under study, we have commissioned HKU and CUHK to provide professional input and technical support to the review. HKU is responsible for conducting a comprehensive projection on the manpower demand for healthcare professionals from the designated disciplines based on objective data collated from a wide range of sources within the community, taking into account all relevant factors and

considerations. CUHK is tasked to conduct a comparative review of the regulatory frameworks in local and overseas contexts governing registration, licensing, qualifications and professional conduct of the healthcare professions concerned, as well as mechanisms for setting professional standards and maintaining competence.

## **LATEST DEVELOPMENT**

### **Progress of the HKU Study**

4. HKU has completed a literature review and a survey of the healthcare manpower planning models adopted in overseas jurisdictions. It emerges from the exercise that healthcare workforce planning is an extremely complex mission and there is no universal model for estimating healthcare manpower whether in the literature or among the jurisdictions surveyed. The more common approaches adopted include workforce-population ratios, demand/utilisation-based or need-based models and supply models, a brief description of which is set out in **Annex A**. Each method however has its own strengths and limitations, and involves many compromises, simplifications and assumptions in the forecasting process. Manpower projection is also a highly data-intensive activity. The reliability of a model is contingent upon the quality and availability of data, especially in respect of the private sector where patient care data are scattered, less complete, or not readily available.

5. Bearing in mind the constraints and challenges of healthcare manpower projection, HKU has developed a generic forecasting model that suits the local circumstances and is adaptable to changing parameters as far as possible. As illustrated in **Annex B**, the model seeks to forecast the demand for healthcare professionals in the coming years by projecting healthcare services utilisation of the population to be served using historical utilisation data which are adjusted for population growth and demographic changes. The demand projections so derived will then be compared with the estimated supply of healthcare professionals during the same period to see if any surplus or shortage of manpower exists. The model will be suitably adapted to cater for utilisation parameters peculiar to individual professions in forecasting the manpower demand and supply situation of the 13 healthcare disciplines under study.

### **Progress of the CUHK Study**

6. CUHK has completed a review of the international literature and a survey of the overseas practices on the subject of regulation of healthcare professionals. The study finds that many jurisdictions are undergoing regulatory reforms with an aim to better protect patients' rights, ensure patient safety and improve quality of care. Increasingly healthcare professional

regulation is moving from the premise of self-regulation of the profession to protect its own interests to one of co-regulation in partnership with the public to better protect the public's health. There is a global trend for more openness and accountability, including greater involvement of lay persons in regulatory bodies and relevant panels for review and inquiries. It has become a norm for continuing professional development requirements to be made compulsory for healthcare professionals to maintain professional competence. Further measures to help uphold professional standards such as revalidation and recertification are also developing in some jurisdictions. The investigatory and disciplinary functions in a regulatory body are not necessarily integrated into one single entity; they are separated and organised independent of each other in some jurisdictions so as to reduce conflict of interests, perceived or real, in detecting and dealing with poor performance.

7. According to CUHK's study, it is not uncommon for overseas countries to turn to healthcare graduates from abroad to help address short-term manpower shortages at home. There are different criteria for employing international healthcare graduates. Licensing examination is one form for verifying competency, while some jurisdictions have a recognised list of qualified overseas institutions for accepting overseas-trained healthcare professionals. These graduates may need some form of professional assessment before working in healthcare institutions, and some jurisdictions require them to complete a specified period of supervised training in lieu of qualifying or licensing examinations or internships.

8. Compared with overseas jurisdictions, healthcare regulation in Hong Kong is one characterised by a high degree of professional autonomy. Regulatory councils and boards operate independently in discharging their statutory duties, including registration of titles, administration of licensing examinations, the setting of qualifications and standards, issuance of codes of practice, and the handling of competence, conduct and disciplinary matters. Comprising mainly members from the respective professions, these boards and councils are funded by the public purse with secretariat support provided by the Department of Health. Healthcare professionals are not mandated to participate in continuing professional development programmes, save in the case of Chinese medicine practitioners and medical and dental specialists. Those trained overseas are normally required to pass a licensing examination administered by the respective councils/boards before they are allowed to practise in Hong Kong with a full licence. A comparison of the regulatory framework in Hong Kong and that for healthcare professionals in overseas jurisdictions is available in **Annex C**.

### **Implications for Hong Kong**

9. As in the case of many advanced economies, Hong Kong's healthcare system faces a number of challenges, including an ageing population,

increasing occurrence of lifestyle-related diseases and rising expectations for healthcare services. Confronted by these challenges, we have to look for ways to refine the system for long-term sustainability, while improving service and quality. Among other things, we need to ensure an adequate supply of quality healthcare professionals to cope with the mounting challenges. To this end, we need a manpower supply mechanism that is flexible enough to cater for fluctuations in demand over time and a regulatory framework that is conducive to quality improvement and professional development. The Steering Committee will make reference to the findings of the commissioned studies and take into account factors and considerations unique to our local circumstances when drawing up its recommendations for ensuring adequate manpower supply and promoting professional development.

## **NEXT STEPS**

10. The strategic review is now progressing in full swing. CUHK is in the course of suggesting possible changes to healthcare regulation in Hong Kong having regard to international practices and views of local stakeholders. As for HKU, it is in the process of adapting the generic model for individual professions and collating profession-specific service utilisation data for the purpose of making projections. Forecasts for doctors, dentists and nurses (including midwives) are expected to be available in early 2014. Given the complexity of the task and the longer than expected time required for data collection, HKU anticipates that it will complete the projections for all the professions under study towards the latter half of 2014.

11. Subject to deliberation of the Steering Committee and progress of the two commissioned studies, we aim to conclude the strategic review in 2014. The recommendations of the Steering Committee, together with the findings from the two studies, will be published for public information upon completion of the review. Subject to the outcome of the review, we will follow up on its recommendations with a view to putting them into action as soon as practicable.

## **ADVICE SOUGHT**

12. Members are invited to note the content of this paper.

**Food and Health Bureau  
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## **Common Approaches for Healthcare Workforce Planning**

### **Need-based Models**

Need-based models allow for estimates of a population's healthcare need by considering changes in population health status and efficacy of healthcare services while adjusting for population size and characteristics including age, sex, household income, risk behaviour, and self-perceived health. These models project healthcare deficits as well as healthcare service need and can avoid perpetuating existing inequity and inefficiency within the healthcare delivery system. As need-based approaches have greater data demand than those based on supply or utilization, the availability of epidemiological data is an important limiting factor. For these models, detailed information on the efficacy of individual medical services for specific medical conditions is required. The assumption of these models that healthcare resources will be used in accordance with relative levels of need is also not verified.

### **Demand/Utilization-based Models**

2. Demand/utilization models project healthcare service need based on service utilization data, under the assumption that healthcare workload remains constant over time, and that population growth directly leads to increased workload. These models commonly include (i) estimates of healthcare demand or historical utilization patterns, (ii) anticipated change in practice patterns, (iii) impact of current and emerging technologies, and (iv) policy change. The projections are often limited to age and sex, although other characteristics of the population, market conditions, institutional arrangements and patterns of morbidity may be included. Previous demand models often assumed that doctors were required for all demanded service, current demand was appropriate, age and sex specific resources requirements were constant, and that demographic change was predictable over time.

### **Benchmarking**

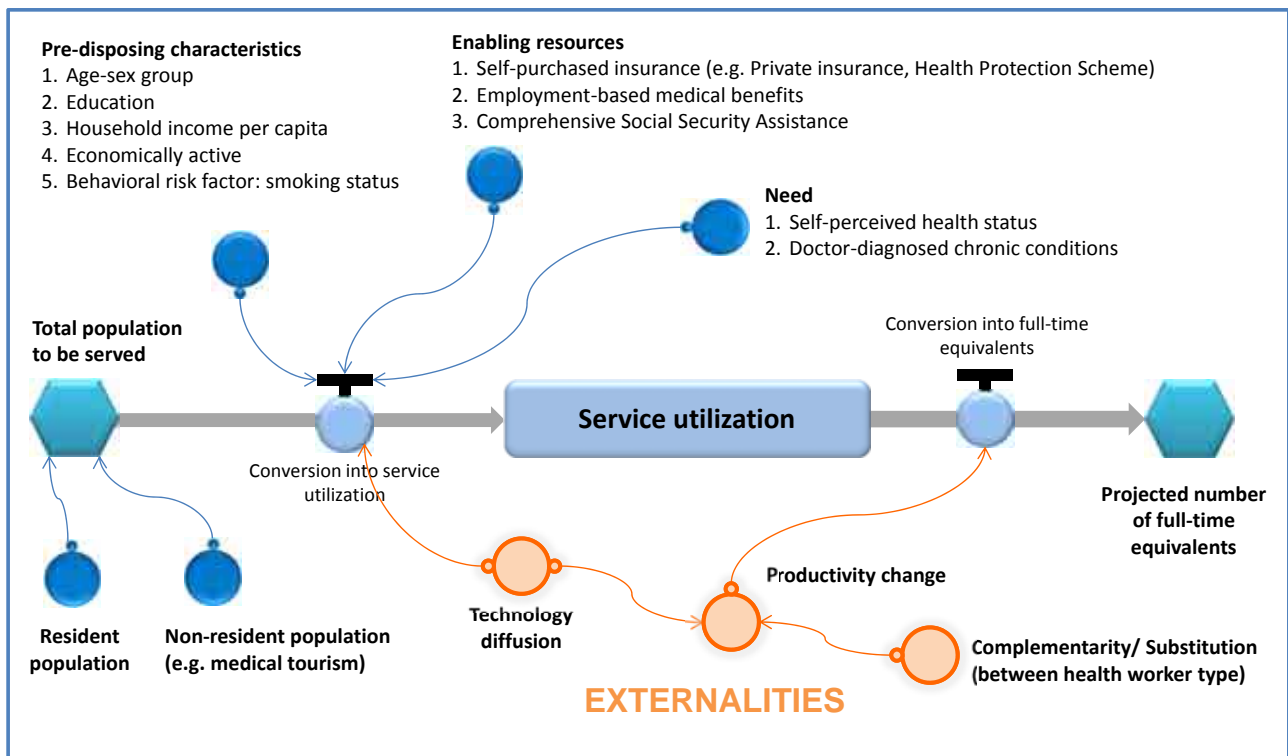
3. Benchmarks refer to a current best estimate of a reasonable workforce. By way of benchmarking, manpower requirements are estimated on the basis of healthcare worker-to-population ratios and current healthcare services. Estimates by benchmarking are valid for comparison only if communities and healthcare planning parameters are comparable. Adjustments for differences in population demography, population health, health insurance, productivity and health system organization are important for such models to be relevant.

## **Trend Analysis**

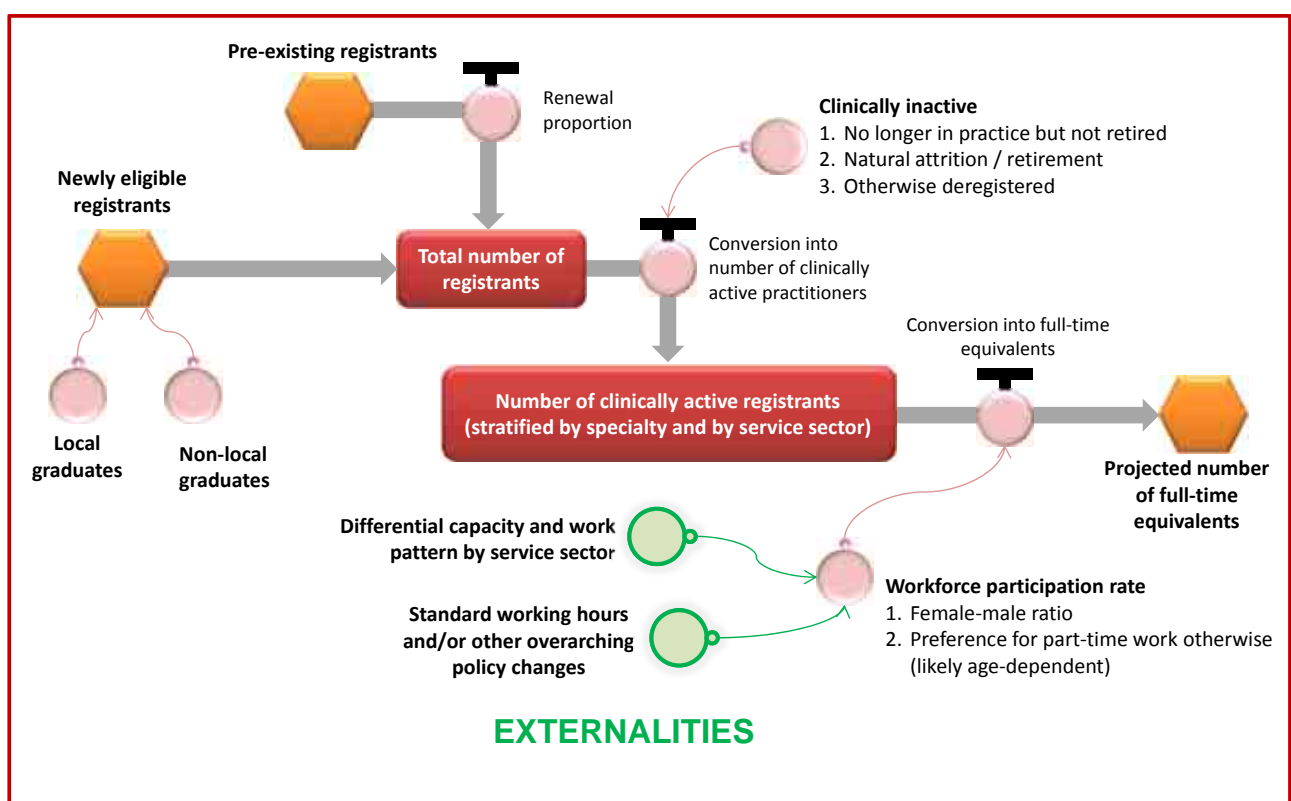
4. Trend analysis uses observed historical population growth and ageing trends for predicting future trends based on aggregate level and time series historical data. It is a macro simulation based on the extrapolation of past trends, assuming (i) a causal relationship between economic growth and the number of doctors per capita, (ii) that future requirements will reflect current requirements (e.g. the current level, mix, and distribution of providers are sufficient), (iii) productivity remains constant, and (iv) demographic profiles (such as population growth) are consistent with observed trends. Trend analysis is often useful for projecting likely growth particularly in the private sector. These models, however, do not consider the evolution of the demand for care, doctor productivity, and elasticity of labour supply for different provider groups.

# Healthcare Manpower Projection Forecasting Model

## Conceptual demand model



## Conceptual supply model



Comparison of Regulatory and Supervisory Frameworks for Healthcare Professionals in Overseas Jurisdictions - Medical Practitioners

Area of Comparison	Jurisdictions											
	Hong Kong	UK	Germany	Finland	US	Canada	Australia	New Zealand	China	Taiwan	Malaysia	Singapore
<b>Nature of Medical Regulation</b>												
Self-regulation	✓		✓			✓						
Co-regulation with public		✓ <sup>Note 1</sup>			✓		✓	✓				
Strong government oversight		✓		✓					✓	✓	✓	✓
<b>Regulatory Body</b>												
Regulators	The Medical Council of Hong Kong	General Medical Council	(i) German Medical Association (ii) State Chambers of Physicians	National Supervisory Authority for Welfare and Health	(i) Federation of State Medical Board (ii) State Medical Boards	(i) Federation of Medical Regulatory Authorities of Canada (ii) 13 Provincial and Territorial Medical Regulatory Authorities (iii) Medical Council of Canada	Medical Board of Australia	Medical Council of New Zealand	(i) Ministry of Health (ii) Administrative departments of health under local people's governments at or above county level	(i) Department of Health (ii) Bureau of Medical Affairs	Malaysian Medical Council	The Singapore Medical Council
<b>Composition of the Regulatory Body</b>												
Lay member	4 (14%)	12 (50%)	0 (0%)	N/A	2 (8%)	5 (33%)	4 (33%)	4 (33%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Professional member (elected)	14 (50%)	0 (0%)	N/A	N/A	0 (0%)	10 (67%)	0 (0%)	4 (33%)	N/A	N/A	11 (33%)	12 (50%)
Professional member (appointed)	10 (36%)	12 (50%)	N/A	N/A	22 (92%)	0 (0%)	8 (67%)	4 (34%)	N/A	N/A	22 (67%)	12 (50%)
Total number of members	28	24	N/A	N/A	24	15	12	12	N/A	N/A	33	24
					(New York State)	(British Columbia)						
<b>Sources of Funding in Regulatory Bodies</b>												
By the professional		✓			✓	✓	✓	✓				✓
By the government	✓		✓	✓					✓	✓	✓	
<b>Accreditation System for Education and Training</b>												
Accrediting body different from regulatory body	✗	✗	✗	✗	✓	✓	✓	✗	✗	✓	✗	✓



### Comparison of Regulatory and Supervisory Frameworks for Healthcare Professionals in Overseas Jurisdictions - Medical Practitioners

Area of Comparison	Jurisdictions											
	Hong Kong	UK	Germany	Finland	US	Canada	Australia	New Zealand	China	Taiwan	Malaysia	Singapore
<b>Requirements on Overseas Graduates</b>												
(a) Recognised list / area of overseas education institutions	✘	✓	✓	✓	✘	✓	✓	✓	N/A	✘	✓	✓
(b) Compulsory licensing examinations	✓	✘	✘	✘	✓	✘	✘	✘	N/A	✓	✘	✘
(c) Language proficiency assessment	✓	✓	✓	✓	✓	✓	✓	✓	N/A	N/A	N/A	✓
(d) Specified period of supervised work before full registration	✓	✘	✘	✓ <sup>Note 2</sup>	✓	✓	✓	✓	N/A	N/A	✓	✓
<b>Continuing Professional Development (CPD) Requirements</b>												
Mandatory CPD	For Specialists Only	✓	✓	✘	✓	✓	✓	✓	✓	✓	✘	✓
<b>Revalidation / Recertification</b>												
Revalidation / Recertification	✘	✓	✘	✘	✓	✓	✘	✓	✘	✘	✘	✘
<b>Disciplinary Mechanisms</b>												
Independent complaint body	✘	✘	✘	✓	✘	✘	✓	✓	✘	✘	✘	✘
Independent adjudication body	✘	✓	✘	✘	✘	✘	N/A	✓	✘	✘	✘	✘

Note 1 Recently moving towards co-regulation

Note 2 for overseas graduates from outside the EU or European Economic Area

N/A = information not available

**Comparison of Regulatory and Supervisory Frameworks for Healthcare Professionals in Overseas Jurisdictions - Dentists**

Area of Comparison	Jurisdictions <sup>Note 1</sup>									
	Hong Kong	UK	US	Canada	Australia	New Zealand	China	Taiwan	Malaysia	Singapore
<b>Nature of Medical Regulation</b>										
Self-regulation	✓			✓						
Co-regulation with public		✓ <sup>Note 2</sup>	✓		✓	✓				
Strong government oversight		✓					✓	✓	✓	✓
<b>Regulatory Body</b>										
Regulators	The Dental Council of Hong Kong	General Dental Council	(i) American Association of Dental Board (ii) State / Regional Dental Boards	(i) Dental Regulatory Authorities & Provincial/ Territorial Associations (ii) Canadian Dental Regulatory Authorities Federation	Dental Board of Australia	Dental Council of New Zealand	(i) Ministry of Health (ii) Administrative departments of health under local people's governments at or above the county level	(i) Department of Health (ii) Bureau of Medical Affairs	The Malaysian Dental Council	The Singapore Dental Council
<b>Composition of the Regulatory Body</b>										
Lay member	1 (8%)	12 (50%)	1 (6%)	6 (33%)	4 (33%)	3 (30%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Professional member (elected)	0 (0%)	0 (0%)	0 (0%)	12 (67%)	0 (0%)	0 (0%)	N/A	N/A	10 (42%)	4 (36%)
Professional member (appointed)	11 (92%)	12 (50%)	17 (94%)	0 (0%)	8 (67%)	7 (70%)	N/A	N/A	12 (50%)	7 (64%)
ex-officio member	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	N/A	N/A	2 (8%)	0 (0%)
Total number of members	12	24	18	18	12	10	N/A	N/A	24	11
			(New York State)	(British Columbia)						
<b>Sources of Funding in Regulatory Bodies</b>										
By the professional		✓	✓	✓	✓	✓				✓
By the government	✓						✓	✓	✓	
<b>Accreditation System for Education and Training</b>										
Accrediting body different from regulatory body	✗	✗	✓	✓	✓	✗	✗	✓	✗	✓

### Comparison of Regulatory and Supervisory Frameworks for Healthcare Professionals in Overseas Jurisdictions - Dentists

Area of Comparison	Jurisdictions <sup>Note 1</sup>									
	Hong Kong	UK	US	Canada	Australia	New Zealand	China	Taiwan	Malaysia	Singapore
<b>Requirements on Overseas Graduates</b>										
(a) Recognised list / area of overseas education institutions	✗	✓	varied across states	✓	✓	✓	N/A	✗	✓	✓
(b) Compulsory licensing examinations	✓	✗		✗	✗	✗	N/A	✓	✗	✗
(c) Language proficiency assessment	✗	✓	N/A	varied across provinces	✓	✓	N/A	N/A	N/A	N/A
(d) Specified period of supervised work before full registration	✗	✓	N/A	N/A	✓	✗	N/A	N/A	N/A	N/A
<b>Continuing Professional Development (CPD) Requirements</b>										
Mandatory CPD	For Dental Specialists Only	✓	✓	✓	✓	✓	✓	✓	✓	✓
<b>Revalidation / Recertification</b>										
Revalidation / Recertification	✗	✗	✓	✗	✗	✓	✗	✗	✗	✗
<b>Disciplinary Mechanisms</b>										
Independent complaint body	✗	✗	✗	✗	✓	✓	✗	✗	✗	✗
Independent adjudication body	✗	✗	✗	✗	N/A	✓	✗	✗	✗	✗

<sup>Note 1</sup> For Finland & Germany, information is not available

<sup>Note 2</sup> Recently moving towards co-regulation

N/A = information not available

### Comparison of Regulatory and Supervisory Frameworks for Healthcare Professionals in Overseas Jurisdictions - Chinese Medicine Practitioners

Area of Comparison	Jurisdictions <sup>Note 1</sup>											
	Hong Kong	UK	US	Canada <sup>Note 2</sup> (British Columbia)	Australia	New Zealand	China	Taiwan	Malaysia	Singapore		
<b>Nature of Medical Regulation</b>												
Self-regulation	✓	Not statutorily regulated	Not statutorily regulated	✓		Not statutorily regulated						
Co-regulation with public					✓							
Strong government oversight									✓	✓	✓	✓
<b>Regulatory Body</b>												
Regulators	Chinese Medicine Council of Hong Kong			The College of Traditional Chinese Medicine Practitioners and Acupuncturists of British Columbia	The Chinese Medicine Board of Australia		The State Administration of Traditional Chinese Medicine	The Committee on Chinese Medicine and Pharmacy under the Department of Health	Traditional & Complementary Medicine Division of MOH	Traditional Chinese Medicine Practitioners Board		
<b>Composition of the Regulatory Body</b>												
Lay member	3 (16%)			3 (33%)	at least 50% but no more than 2/3 must be professional, others are lay members		0 (0%)	0 (0%)	0 (0%)	0 (0%)		
Professional member (elected)	0 (0%)			6(67%)			N/A	N/A	N/A	N/A		
Professional member (appointed)	15 (79%)			0 (0%)			N/A	N/A	N/A	N/A		
ex-officio member	1 (5%)			9			N/A	N/A	N/A	N/A		
Total number of members	19										not less than 5 and not more than 9 members	
<b>Sources of Funding in Regulatory Bodies</b>												
By the professional				N/A	N/A					N/A		
By the government	✓			N/A	N/A		✓	✓	✓	N/A		

### Comparison of Regulatory and Supervisory Frameworks for Healthcare Professionals in Overseas Jurisdictions - Chinese Medicine Practitioners

Area of Comparison	Jurisdictions <sup>Note 1</sup>									
	Hong Kong	UK	US	Canada <sup>Note 2</sup> (British Columbia)	Australia	New Zealand	China	Taiwan	Malaysia	Singapore
<b>Accreditation System for Education and Training</b>										
Accrediting body different from regulatory body	✘			N/A	✘		N/A	N/A	N/A	✘
<b>Requirements on Overseas Graduates</b>										
(a) Recognized list / area of overseas education institutions	✘			N/A	N/A		✓	✘	N/A	✓
(b) Compulsory licensing examinations	✓			N/A	N/A		✘	✓	N/A	✘
(c) Language proficiency assessment	✘			N/A	✓		N/A	N/A	N/A	N/A
(d) Specified period of supervised work before full	✘			N/A	N/A		✓	N/A	N/A	✓
<b>Continuing Professional Development (CPD) Requirements</b>										
Mandatory CPD	✓			✓	✓		✓	✓	✘	N/A
<b>Revalidation / Recertification</b>										
Revalidation / Recertification	✘			N/A	N/A		✘	N/A	N/A	N/A
<b>Disciplinary Mechanisms</b>										
Independent complaint body	✘			N/A	✓		N/A	N/A	N/A	✘
Independent adjudication body	✘			N/A	N/A		N/A	N/A	N/A	✘

<sup>Note 1</sup> For Finland & Germany, information is not available

<sup>Note 2</sup> In Canada, only British Columbia and Ontario regulate Traditional Chinese Medicine Practitioners

N/A = information not available

**Comparison of Regulatory and Supervisory Frameworks for Healthcare Professionals in Overseas Jurisdictions - Nurses and Midwives**

Area of Comparison	Jurisdictions <sup>Note 1</sup>									
	Hong Kong	UK	US	Canada	Australia	New Zealand	China	Taiwan	Malaysia	Singapore
<b>Nature of Medical Regulation</b>										
Self-regulation	✓			✓						
Co-regulation with public		✓ <sup>Note 3</sup>	✓		✓	✓				
Strong government oversight		✓					✓	✓	✓	✓
<b>Regulatory Body</b>										
Regulators	(i) The Nursing Council of Hong Kong (ii) The Midwives Council of Hong Kong	Nursing & Midwives Council	(i) National Council of State Boards of Nursing (ii) State Boards of Nursing (iii) State Boards of Midwifery	(i) Provincial & Territorial Regulatory Bodies for Nurses / Midwives (ii) Canadian Council of Registered Nurse Regulators (iii) Canadian Council for Practical Nurse Regulators (iv) Registered Psychiatric Nurses of Canada (v) Canadian Midwifery Regulators Consortium	Nursing and Midwifery Board of Australia	(i) Nursing Council of New Zealand (ii) Midwifery Council of New Zealand	(i) Ministry of Health (ii) Administrative departments of health under local people's governments at or above county level	(i) Department of Health (ii) Bureau of Medical Affairs (iii) Bureau of Nursing and Health Services	(i) Malaysian Nursing Board (ii) Malaysian Midwives Board	Singapore Nursing Board
<b>Composition of the Regulatory Body</b>										
Lay member	(i) 3 (20%) (ii) 2 (11%)	7 (50%)	(ii) 2 (12%) (iii) 1 (8%)	CRNBC 3 (25%) CMBC 3 (33%)	4 (33%)	(i) 3 (33%) (ii) 1 (13%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Professional member (elected)	0 (0%)	0 (0%)	0 (0%)	CRNBC 9 (75%) CMBC 6 (67%)	0 (0%)	(i) 6 (67%) (appointed & elected)	N/A	N/A	0 (0%)	0 (0%)
Professional member (appointed)	(i) 11(73%) (ii) 14 (78%)	7 (50%)	(ii) 15 (88%) (iii) 12 (92%)	0 (0%)	8 (67%)	(ii) 7 (87%) (appointed)	N/A	N/A	(i) 15 (71%) (ii) 13 (76%)	15 (88%)
ex-officio member	(i) 1 (7%) (ii) 2 (11%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	N/A	N/A	(i) 6 (29%) (ii) 4 (24%)	2 (12%)
Total number of members	(i) 15 (ii) 18	14	(ii) 17 (iii) 13	CRNBC 12 CMBC 9	12	(i) 9 (ii) 8	N/A	N/A	(i) 21 (ii) 17	17
			(New York State)	CRNBC - College of Registered Nurses in BC CMBC - College of Midwives of BC (British Columbia)						

**Comparison of Regulatory and Supervisory Frameworks for Healthcare Professionals in Overseas Jurisdictions - Nurses and Midwives**

Area of Comparison	Jurisdictions <sup>Note 1</sup>									
	Hong Kong	UK	US	Canada	Australia	New Zealand	China	Taiwan	Malaysia	Singapore
<b>Sources of Funding in Regulatory Bodies</b>										
By the professional		✓	✓	✓	✓	✓				✓
By the government	✓						✓	✓	✓	
<b>Accreditation System for Education and Training</b>										
Accrediting body different from regulatory body	✗	✗	✓	✓	✓	✗	✗	✓	✗	✓
<b>Requirements on Overseas Graduates</b>										
(a) Recognised list / area of overseas education institutions	✗	✓	varied across states	✓	✓	✓	N/A	✗	✓	✓
(b) Compulsory licensing examinations	✓	✗		✗	✗	✗	N/A	✓	✗	✗
(c) Language proficiency assessment	✓ <sup>Note 2</sup>	✓	✓	✓	✓	✓	N/A	N/A	✓	N/A
(d) Specified period of supervised work before full registration	✗	✓	varied across states	✗	✗	✗	N/A	N/A	✗	N/A
				(Ontario)						
<b>Continuing Professional Development (CPD) Requirements</b>										
Mandatory CPD	✗	✓	✓	✓	✓	✓	✓	✓	✓	✗
<b>Revalidation / Recertification</b>										
Revalidation / Recertification	✗	✗	✓	✗	✗	✓	✗	✗	✗	✗
<b>Disciplinary Mechanisms</b>										
Independent complaint body	✗	✗	✗	✗	✓	✓	✗	✗	✗	✗
Independent adjudication body	✗	✗	✗	✗	N/A	✓	✗	✗	✗	✗

<sup>Note 1</sup> For Finland & Germany, information is not available

<sup>Note 2</sup> For Registered Nurse only

<sup>Note 3</sup> Recently moving towards co-regulation

N/A = information not available

### Comparison of Regulatory and Supervisory Frameworks for Healthcare Professionals in Overseas Jurisdictions - Pharmacists

Area of Comparison	Jurisdictions <sup>Note 1</sup>									
	Hong Kong	UK	US	Canada	Australia	New Zealand	China	Taiwan	Malaysia	Singapore
<b>Nature of Medical Regulation</b>										
Self-regulation	✓			✓						
Co-regulation with public		✓ <sup>Note 2</sup>	✓		✓	✓				
Strong government oversight		✓					✓	✓	✓	✓
<b>Regulatory Body</b>										
Regulators	Pharmacy and Poisons Board of Hong Kong	(i) General Pharmaceutical Council (ii) Pharmaceutical Society of Northern Ireland <i>(regulatory body in Northern Ireland)</i>	(i) National Association of Boards of Pharmacy (ii) State Boards of Pharmacy	National Association of Pharmacy Regulatory Authorities	Pharmacy Board of Australia	Pharmacy Council of New Zealand	(i) Ministry of Health (ii) Administrative departments of health under local people's governments at or above the county level (iii) State Food and Drug Administration (國家食品藥品監督管理局)	Department of Health	Pharmacy Board Malaysia	Singapore Pharmacy Council
<b>Composition of the Regulatory Body</b>										
Lay member	0 (0%)	7 (50%)	2 (18%)	4 (33%)	4 (33%)	2 (25%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Professional member (elected)	0 (0%)	0 (0%)	0 (0%)	8 (67%)	0 (0%)	0 (0%)	N/A	N/A	0 (0%)	0 (0%)
Professional member (appointed)	8 (73%)	7 (50%)	9 (82%)	0 (0%)	8 (67%)	6 (75%)	N/A	N/A	16 (89%)	9 (82%)
ex-officio member	3 (27%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	N/A	N/A	2 (11%)	2 (18%)
Total number of members	11	14	11	12	12	8	N/A	N/A	18	11
			(New York State)	(British Columbia)						
<b>Sources of Funding in Regulatory Bodies</b>										
By the professional		✓	✓	✓	✓	✓				✓
By the government	✓						✓	✓	✓	



### Comparison of Regulatory and Supervisory Frameworks for Healthcare Professionals in Overseas Jurisdictions - Pharmacists

Area of Comparison	Jurisdictions <sup>Note 1</sup>									
	Hong Kong	UK	US	Canada	Australia	New Zealand	China	Taiwan	Malaysia	Singapore
<b>Accreditation System for Education and Training</b>										
Accrediting body different from regulatory body	✘	✘	✓	✓	✓	✘	✘	✓	✘	✓
<b>Requirements on Overseas Graduates</b>										
(a) Recognised list / area of overseas education institutions	✘	✓	varied across states	✘	✓	✓	N/A	✘	✓	✘
(b) Compulsory licensing examinations	✓	✘		✓ (except Quebec)	✘	✘	N/A	✓	✘	✓
(c) Language proficiency assessment	✘	✓	✓	✓	✓	✓	N/A	N/A	N/A	✓
(d) Specified period of supervised work before full registration	✘	✓	varied across states	varied across provinces	✓	✓	N/A	N/A	N/A	✓
<b>Continuing Professional Development (CPD) Requirements</b>										
Mandatory CPD	✘	✓	✓	✓	✓	✓	✓	✓	✓	✓
<b>Revalidation / Recertification</b>										
Revalidation / Recertification	✘	✘	✓	N/A	✘	✓	N/A	N/A	N/A	N/A
<b>Disciplinary Mechanisms</b>										
Independent complaint body	✘	✘	✘	✘	✓	✓	✘	✘	✘	✘
Independent adjudication body	✘	✘	✘	✘	N/A	✓	✘	✘	✘	✘

Note 1 For Finland & Germany, information is not available

Note 2 Recently moving towards co-regulation

N/A = information not available

## Comparison of Regulatory and Supervisory Frameworks for Healthcare Professionals in Overseas Jurisdictions - Chiropractors

Area of Comparison	Jurisdictions <sup>Note 1</sup>								
	Hong Kong	UK	US	Canada	Australia	New Zealand	Taiwan	Malaysia	Singapore
<b>Nature of Medical Regulation</b>									
Self-regulation	✓			✓			Not statutorily regulated	Not statutorily regulated	Not statutorily regulated
Co-regulation with public		✓ <sup>Note 3</sup>	✓		✓	✓			
Strong government oversight		✓							
<b>Regulatory Body</b>									
Regulators	Chiropractors Council of Hong Kong	The General Chiropractic Council	The Federation of Chiropractic Licensing Boards	The Canadian Chiropractic Association	Chiropractic Board	New Zealand Chiropractic Board			
<b>Composition of the Regulatory Body</b>									
Lay member	4 (40%)	7 (50%)	N/A	N/A	at least 50% but no more than 2/3 must be professional, others are lay members	2 (29%)			
Professional member (elected)	0 (0%)	0 (0%)	N/A	N/A		5 (71%)			
Professional member (appointed)	6 (60%)	7 (50%)	N/A	N/A					
Total number of members	10	14	N/A	N/A		7			
<b>Sources of Funding in Regulatory Bodies</b>									
By the professional		✓	✓	✓	✓	✓			
By the government	✓								
<b>Accreditation System for Education and Training</b>									
Accrediting body different from regulatory body	Note 2	✗	✓	N/A	✗	N/A			

## Comparison of Regulatory and Supervisory Frameworks for Healthcare Professionals in Overseas Jurisdictions - Chiropractors

Area of Comparison	Jurisdictions <sup>Note 1</sup>								
	Hong Kong	UK	US	Canada	Australia	New Zealand	Taiwan	Malaysia	Singapore
<b>Requirements on Overseas Graduates</b>									
(a) Recognised list / area of overseas education institutions	✓	N/A	N/A	N/A	N/A	✓			
(b) Compulsory licensing examinations	✗	N/A	N/A	N/A	N/A	✗			
(c) Language proficiency assessment	✗	N/A	N/A	N/A	N/A	N/A			
(d) Specified period of supervised work before full registration	✗	N/A	N/A	N/A	N/A	N/A			
<b>Continuing Professional Development (CPD) Requirements</b>									
Mandatory CPD	✗	✓	varied across states	varied across provinces	✓	✓			
<b>Revalidation / Recertification</b>									
Revalidation / Recertification	✗	✗	N/A	N/A	N/A	N/A			
<b>Disciplinary Mechanisms</b>									
Independent complaint body	✗	N/A	N/A	N/A	✓	✓			
Independent adjudication body	✗	N/A	N/A	N/A	N/A	✓			

<sup>Note 1</sup> For China, Finland & Germany, information is not available

<sup>Note 2</sup> There is no chiropractic education in Hong Kong

<sup>Note 3</sup> Recently moving towards co-regulation

N/A = information not available

## Comparison of Regulatory and Supervisory Frameworks for Healthcare Professionals in Overseas Jurisdictions - Medical Laboratory Technologist

Area of Comparison	Jurisdictions <small>Note 1 and Note 2</small>			
	Hong Kong	New Zealand	Malaysia	Singapore
<b>Nature of Medical Regulation</b>				
Self-regulation	✓		Not statutorily regulated	Not statutorily regulated
Co-regulation with public		✓		
Strong government oversight				
<b>Regulatory Body</b>				
Regulators	Supplementary Medical Professions Council	The Medical Science Council of New Zealand		
<b>Composition of the Regulatory Body</b>				
Lay member	0 (0%)	3 (30%)	Not statutorily regulated	Not statutorily regulated
Professional member (elected)	0 (0%)	7 (70%)		
Professional member (appointed)	17 (100%)			
Total number of members	17	10		
<b>Sources of Funding in Regulatory Bodies</b>				
By the professional		✓	Not statutorily regulated	Not statutorily regulated
By the government	✓			
<b>Accreditation System for Education and Training</b>				
Accrediting body different from regulatory body	✗	N/A		
<b>Requirements on Overseas Graduates</b>				
(a) Recognised list / area of overseas education institutions	Assess on individual merits	N/A	Not statutorily regulated	Not statutorily regulated
(b) Compulsory licensing examinations	✗ <small>Note 3</small>	N/A		
(c) Language proficiency assessment	✗	N/A		
(d) Specified period of supervised work before full registration	✗	N/A		
<b>Continuing Professional Development (CPD) Requirements</b>				
Mandatory CPD	✗	✓		

## Comparison of Regulatory and Supervisory Frameworks for Healthcare Professionals in Overseas Jurisdictions - Medical Laboratory Technologist

Area of Comparison	Jurisdictions <small>Note 1 and Note 2</small>			
	Hong Kong	New Zealand	Malaysia	Singapore
<b>Revalidation / Recertification</b>				
Revalidation / Recertification	✘	✓		
<b>Disciplinary Mechanisms</b>				
Independent complaint body	✘	✓		
Independent adjudication body	✘	✓		

Note 1 For UK, Australia, China, Taiwan, Finland & Germany, information is not available.

Note 2 For US and Canada, information on the areas of comparison is not available.

Note 3 Licensing examination where applicable.

N/A = information not available

**Comparison of Regulatory and Supervisory Frameworks for Healthcare Professionals in Overseas Jurisdictions - Occupational Therapists**

Area of Comparison	Jurisdictions <small>Note 1 and Note 2</small>						
	Hong Kong	UK	Australia	New Zealand	Taiwan	Malaysia	Singapore
<b>Nature of Medical Regulation</b>							
Self-regulation	✓					Not statutorily regulated	
Co-regulation with public		✓ <sup>Note 4</sup>	✓	✓			
Strong government oversight		✓			✓		✓
<b>Regulatory Body</b>							
Regulators	Supplementary Medical Professions Council	Health and Care Professions Council <small>Note 5</small>	Occupational Therapy Board	Occupational Therapy Board of New Zealand	Department of Health		The Allied Health Professions Council
<b>Composition of the Regulatory Body</b>							
Lay member	0 (0%)	10(50%)	at least 50% but no more than 2/3 must be professional, others are lay members	2 (29%)	0 (0%)		0 (0%)
Professional member (elected)	0 (0%)	10(50%)		5 (71%)	N/A		N/A
Professional member (appointed)	17 (100%)				N/A		N/A
Total number of members	17	20		7	N/A		N/A
<b>Sources of Funding in Regulatory Bodies</b>							
By the professional		✓	✓	✓			✓
By the government	✓				✓		
<b>Accreditation System for Education and Training</b>							
Accrediting body different from regulatory body	✗	✗	✗	✗	N/A		✗
<b>Requirements on Overseas Graduates</b>							
(a) Recognised list / area of overseas education institutions	✓	N/A	N/A	N/A	N/A		✓
(b) Compulsory licensing examinations	✗ <sup>Note 3</sup>	N/A	N/A	N/A	N/A		✗
(c) Language proficiency assessment	✗	N/A	N/A	N/A	N/A		N/A
(d) Specified period of supervised work before full registration	✗	N/A	N/A	N/A	N/A		N/A

## Comparison of Regulatory and Supervisory Frameworks for Healthcare Professionals in Overseas Jurisdictions - Occupational Therapists

Area of Comparison	Jurisdictions <small>Note 1 and Note 2</small>						
	Hong Kong	UK	Australia	New Zealand	Taiwan	Malaysia	Singapore
<b>Continuing Professional Development (CPD) Requirements</b>							
Mandatory CPD	✘	✓	✓	✓	N/A		✘
<b>Revalidation / Recertification</b>							
Revalidation / Recertification	✘	✘	N/A	✓	N/A		N/A
<b>Disciplinary Mechanisms</b>							
Independent complaint body	✘	✘	✓	✓	N/A		✘
Independent adjudication body	✘	✘	N/A	✓	N/A		✘

Note 1 For China, Finland & Germany, information is not available.

Note 2 For US and Canada, information on the areas of comparison is not available.

Note 3 Applicants holding qualifications other than those recognised by the Board will need to take the licensing examination.

Note 4 Recently moving towards co-regulation

Note 5 Health and Care Professions Council also regulate 15 other health professions.

N/A = information not available

### Comparison of Regulatory and Supervisory Frameworks for Healthcare in Overseas Jurisdictions - Optometrists

Area of Comparison	Jurisdictions <small>Note 1 and Note 2</small>					
	Hong Kong	UK	Australia	New Zealand	Malaysia	Singapore
<b>Nature of Medical Regulation</b>						
Self-regulation	✓					
Co-regulation with public		✓ <small>Note 4</small>	✓	✓		
Strong government oversight		✓			✓	✓
<b>Regulatory Body</b>						
Regulators	Supplementary Medical Professions Council	General Optical Council	Optometry Board	The Optometrists and Dispensing Opticians Board	The Malaysian Optical Council	Optometrists and Opticians Board
<b>Composition of the Regulatory Body</b>						
Lay member	0 (0%)	6 (50%)	at least 50% but no more than 2/3 must be professional, others are lay members	1 (13%)	0 (0%)	0 (0%)
Professional member (elected)	0 (0%)	0 (0%)		7 (87%)	N/A	N/A
Professional member (appointed)	17 (100%)	6 (50%)		8	N/A	N/A
Total number of members	17	12				
<b>Sources of Funding in Regulatory Bodies</b>						
By the professional		✓	✓	✓		✓
By the government	✓				✓	
<b>Accreditation System for Education and Training</b>						
Accrediting body different from regulatory body	✗	✗	✗	N/A	N/A	✗
<b>Requirements on Overseas Graduates</b>						
(a) Recognised list / area of overseas education institutions	✓	✓	N/A	N/A	N/A	N/A
(b) Compulsory licensing examinations	✗ <small>Note 3</small>	✗	N/A	N/A	N/A	N/A
(c) Language proficiency assessment	✗	N/A	N/A	N/A	N/A	N/A
(d) Specified period of supervised work before full registration	✗	N/A	N/A	N/A	N/A	N/A



### Comparison of Regulatory and Supervisory Frameworks for Healthcare in Overseas Jurisdictions - Optometrists

Area of Comparison	Jurisdictions <small>Note 1 and Note 2</small>					
	Hong Kong	UK	Australia	New Zealand	Malaysia	Singapore
<b>Continuing Professional Development (CPD) Requirements</b>						
Mandatory CPD	✘	✓	✓	✓	N/A	✘
<b>Revalidation / Recertification</b>						
Revalidation / Recertification	✘	✘	N/A	✓	N/A	N/A
<b>Disciplinary Mechanisms</b>						
Independent complaint body	✘	✘	✓	✓	✘	✘
Independent adjudication body	✘	✘	N/A	✓	✘	✘

Note 1 For China, Taiwan, Finland & Germany, information is not available.

Note 2 For US and Canada, information on the areas of comparison is not available.

Note 3 Applicants holding qualifications other than those recognised by the Board will need to take the licensing examination.

Note 4 Recently moving towards co-regulation

N/A = information not available

## Comparison of Regulatory and Supervisory Frameworks for Healthcare Professionals in Overseas Jurisdictions - Radiographer

Area of Comparison	Jurisdictions <small>Note 1 and Note 2</small>					
	Hong Kong	UK	Australia	New Zealand	Malaysia	Singapore
<b>Nature of Medical Regulation</b>						
Self-regulation	✓				Not statutorily regulated	Not statutorily regulated
Co-regulation with public		✓ <small>Note 4</small>	✓	✓		
Strong government oversight		✓				
<b>Regulatory Body</b>						
Regulators	Supplementary Medical Professions Council	Health and Care Professions Council <small>Note 5</small>	Medical Radiation Practice Board	The Medical Radiation Technologists Board		
<b>Composition of the Regulatory Body</b>						
Lay member	0 (0%)	10(50%)	at least 50% but no more than 2/3 must be professional, others are lay members	3(30%)		
Professional member (elected)	0 (0%)	10(50%)		7(70%)		
Professional member (appointed)	17 (100%)					
Total number of members	17	20		10		
<b>Sources of Funding in Regulatory Bodies</b>						
By the professional		✓	✓	✓		
By the government	✓					
<b>Accreditation System for Education and Training</b>						
Accrediting body different from regulatory body	✗	✗	✗	N/A		
<b>Requirements on Overseas Graduates</b>						
(a) Recognised list / area of overseas education institutions	✓	N/A	N/A	N/A		
(b) Compulsory licensing examinations	✗ <small>Note 3</small>	N/A	N/A	N/A		
(c) Language proficiency assessment	✗	N/A	N/A	N/A		
(d) Specified period of supervised work before full registration	✗	N/A	N/A	N/A		

## Comparison of Regulatory and Supervisory Frameworks for Healthcare Professionals in Overseas Jurisdictions - Radiographer

Area of Comparison	Jurisdictions <small>Note 1 and Note 2</small>					
	Hong Kong	UK	Australia	New Zealand	Malaysia	Singapore
<b>Continuing Professional Development (CPD) Requirements</b>						
Mandatory CPD	✘	✔	✔	✔		
<b>Revalidation / Recertification</b>						
Revalidation / Recertification	✘	✘	N/A	✔		
<b>Disciplinary Mechanisms</b>						
Independent complaint body	✘	✘	✔	✔		
Independent adjudication body	✘	✘	N/A	✔		

Note 1 For China, Taiwan, Finland & Germany, information is not available

Note 2 For US and Canada, information on the areas of comparison is not available

Note 3 Applicants holding qualifications other than those recognised by the Board will need to take the licensing examination.

Note 4 Recently moving towards co-regulation

Note 5 Health and Care Professions Council also regulate 15 other health professions

N/A = information not available

### Comparison of Regulatory and Supervisory Frameworks for Healthcare Professionals in Overseas Jurisdictions - Physiotherapists

Area of Comparison	Jurisdictions <small>Note 1 and Note 2</small>					
	Hong Kong	UK	Australia	New Zealand	Malaysia	Singapore
<b>Nature of Medical Regulation</b>						
Self-regulation	✓				Not statutorily regulated	
Co-regulation with public		✓ <sup>Note 4</sup>	✓	✓		
Strong government oversight		✓				✓
<b>Regulatory Body</b>						
Regulators	Supplementary Medical Professions Council	Health and Care Professions Council <small>Note 5</small>	Physiotherapy Board	Physiotherapists Board		The Allied Health Professions Council
<b>Composition of the Regulatory Body</b>						
Lay member	0 (0%)	10(50%)	at least 50% but no more than 2/3 must be professional, others are lay members	2 (25%)		0 (0%)
Professional member (elected)	0 (0%)	10(50%)		8(75%)		N/A
Professional member (appointed)	17 (100%)			N/A		
Total number of members	17	20		8		N/A
<b>Sources of Funding in Regulatory Bodies</b>						
By the professional		✓	✓	✓		✓
By the government	✓					
<b>Accreditation System for Education and Training</b>						
Accrediting body different from regulatory body	✗	✗	✗	N/A		✗
<b>Requirements on Overseas Graduates</b>						
(a) Recognised list / area of overseas education institutions	✓	N/A	N/A	N/A		✓
(b) Compulsory licensing examinations	✗ <small>Note 3</small>	N/A	N/A	N/A		✗
(c) Language proficiency assessment	✗	N/A	N/A	N/A		N/A
(d) Specified period of supervised work before full registration	✗	N/A	N/A	N/A		N/A

## Comparison of Regulatory and Supervisory Frameworks for Healthcare Professionals in Overseas Jurisdictions - Physiotherapists

Area of Comparison	Jurisdictions <small>Note 1 and Note 2</small>					
	Hong Kong	UK	Australia	New Zealand	Malaysia	Singapore
<b>Continuing Professional Development (CPD) Requirements</b>						
Mandatory CPD	✘	✓	✓	✓		✘
<b>Revalidation / Recertification</b>						
Revalidation / Recertification	✘	✘	N/A	✓		N/A
<b>Disciplinary Mechanisms</b>						
Independent complaint body	✘	✘	✓	✓		✘
Independent adjudication body	✘	✘	N/A	✓		✘

Note 1 For China, Taiwan, Finland & Germany, information is not available.

Note 2 For US and Canada, information on the areas of comparison is not available.

Note 3 Applicants holding qualifications other than those recognised by the Board will need to take the licensing examination.

Note 4 Recently moving towards co-regulation

Note 5 Health and Care Professions Council also regulate 15 other health professions.

N/A = information not available

Source of information: The Chinese University of Hong Kong